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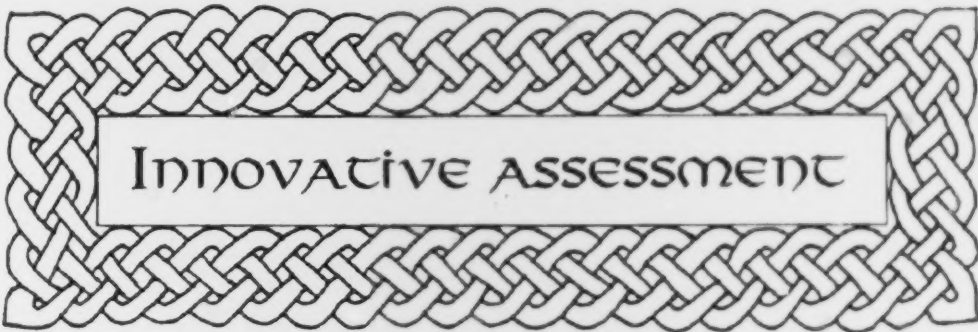
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ABSTRACT

This annotated bibliography, collected and reviewed by the Test Center staff at Northwest Regional Educational Laboratory (NWREL), represents approximately 216 articles on the topic of portfolios. The articles are presented in alphabetical order by primary author and are also listed in an index. The articles are diverse. For example, they include both student and professional staff portfolios, theoretical articles, and actual samples of portfolio systems. All grade levels and many subject areas are covered. The index was developed around a system of descriptors that were used to analyze the articles. A complete listing of all descriptors and their definitions preface the index. Information is also provided on how to obtain the documents included in the bibliography. (LMI)

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INNOVATIVE ASSESSMENT

Portfolio Resources Bibliography

Fall 1994 Edition

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**Portfolio Resources
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Fall 1994 Edition

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BIBLIOGRAPHY OF ASSESSMENT ALTERNATIVES:

PORTFOLIOS

November 1994

Introduction

Few topics in education have generated the intensity of interest as portfolios. In an effort to assist the many educators that are experimenting with this concept, the Test Center at Northwest Regional Educational Laboratory (NWREL) is valiantly attempting to keep up with the avalanche of articles and papers being produced on this topic.

The following annotated bibliography represents articles collected and reviewed by Test Center staff to date.

There are two sections to the bibliography: the articles themselves in alphabetical order by primary author, and an index. The index helps the user find relevant references. It was developed because the articles in this bibliography are diverse. For example, both student and professional staff portfolios, and both theoretical articles about portfolios and actual samples of portfolio systems are included; also included are articles that cover all grade levels, and many subject areas. In order to make articles easier for users to find, a set of descriptors was developed, each paper was analyzed using this set of descriptors, and an index using the descriptors is provided. For example, all articles describing mathematics portfolios are listed under the category "Subject Area" and the descriptor "Math." A complete listing of all descriptors used (with a brief definition of the descriptor) prefaces the index.

The documents on the bib may be obtained from the sources listed for each entry. In the states of Alaska, Idaho, Montana, Oregon and Washington the documents can be borrowed free of charge on a three-week loan from the Test Center. Users in other states are charged a handling fee. The shelf number for each item is listed at the end of the article; for example, TC# 123.4ABCDEF. Please contact Matthew Whitaker, Test Center Clerk, at (503) 275-9582 or use e-mail: testcenter@nwrel.org for more information.

Adams, Dennis, and Mary Hamm. *Portfolio Assessment and Social Studies: Collecting, Selecting, and Reflecting on What Is Significant*. Located in: Social Education 56, February 1992, pp. 103-105.

This is a general orientation to portfolios and includes a general rationale for the use of portfolios in social studies, types of items that might be included in such portfolios, various purposes for such portfolios and how this might affect content, types of containers for portfolios, and a short list of what might be included in a "teaching portfolio" to help teachers self-reflect.

(TC# 700.6PORASS)

Ames, Cheryl K. *Self-Reflection: Supporting Students in Evaluating Themselves as Readers*, 1992. Available from: Beaverton School District, PO Box 200, Beaverton, OR 97075, (503) 591-8000, fax: (503) 591-4415.

The author discusses high school student self-reflection in reading—its importance and how to promote it in students. Samples of student self-reflection are included.

(TC# 440.6SELRES)

Ames, Cheryl K. and Hilary Sumner. *Supporting At-Risk Students in Revaluing Themselves Through Self-Reflection*. Available from: Beaverton School District, PO Box 200, Beaverton, OR 97075, (503) 591-8000, fax: (503) 591-4415.

Paper presented at Northwest Evaluation Association Fifth Annual October Institute, October 21, 1992. This document is a series of detailed overheads from a presentation. They provide a really nice summary of the major considerations in portfolios, focusing on student self-reflection and control over the portfolios as the key to success. The document includes help on how to promote student self-reflection, and a developmental continuum for self-reflection.

(TC# 150.6SUPATR)

Arter, Judith A. *Integrating Assessment and Instruction*, 1994. Available from: Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland, OR 97204, (503) 275-9582, fax (503) 503) 275-9489.

This paper discusses how, if designed properly, performance assessments can be used as tools for learning in the classroom as well as tools for monitoring student progress.

(TC# 150.6INTASI)

Arter, Judith A. *NWEA Student Self-Reflection Discussion Group*, 1992. Available from: Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland, OR 97204, (503) 275-9582, fax (503) 275-9489.

As part of its ongoing consortium on portfolios, the Northwest Evaluation Association (NWEA) hosted a one-day event to explore student self-reflection. Each participant brought examples of student self-reflection along with information about the context under which it was produced. The document presented here is a compilation of the self-reflection materials brought by participants and a summary of the discussion surrounding these examples.

(TC# 000.6NWESTS)

Arter, Judith A. *Performance Criteria: The Heart of the Matter*, 1994. Available from: Northwest Regional Educational Laboratory, 101 SW Main St., Suite 500, Portland, OR 97204, (503) 275-9582, fax (503) 275-9489.

This paper discusses an important issue that pertains to performance assessment in general—the need for clear and well thought-out scoring mechanisms. The paper discusses what performance criteria are, the importance of good quality performance criteria, how to develop performance criteria, and keys to success.

(TC# 150.6PERCRH)

Arter, Judith A. and Pearl Paulson. *Composite Portfolio Work Group Summaries*, 1991. Available from: Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland, OR 97204, (503) 275-9562. Also available from: Northwest Evaluation Association, 5 Centerpointe Dr., Suite 100, Lake Oswego, OR 97035, (503) 624-1951.

These two documents summarize the discussions of a work group at two different NWEA portfolio retreats on the subject of composite portfolios. The work group defines a composite portfolio as "a purposeful collection of student work that tells the story of a group's efforts, progress, or achievement. This collection must include: criteria for selection; criteria for judging merit; and evidence of self-reflection." The documents describe the various forms that these composites could take, and some issues that might arise when developing composites.

(TC# 150.6COMPOW)

Arter, Judith, Ruth Culham, and Vicki Spandel. *Classroom Assessment Series: Using Portfolios of Student Work in Assessment and Instruction*, 1992. Available from: IOX Assessment Associates, 5301 Beethoven St., Suite 109, Los Angeles, CA 90066, (310) 822-3275, fax: (310) 822-0269.

This is a 45-minute video and associated training materials (trainer's guide, handouts, overheads, background reading) for a one-half day workshop on the use of portfolios in instruction and assessment. Topics covered include: what portfolios are, the many purposes for which portfolios have been used, the various design decisions that need to be made to develop one's own portfolio system, developing performance criteria, and how purpose will affect these design decisions.

The tape is intended to be used in an interactive manner — a portion of the video is viewed and then workshop participants engage in discussions or activities. Complete instructions for using the tape in this fashion are included.

There is a skit at the beginning of the tape to introduce the topic of portfolios and interviews with students and a teacher at the end of the tape.

(Note: The document is shelved under two different numbers—"t" refers to the written materials, "v" to the video.)

(TC# 150.6CLAASt13 and TC# 150.6CLAASv13)

Arter, Judith A., and Vicki Spandel. *Using Portfolios of Student Work in Instruction and Assessment*, 1991. Available from: Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland OR 97204, (503) 275-9582. Also located in: Educational Measurement: Issues and Practice, Spring 1992, pp. 36-44. ERIC ED#328 586.

This article is based on a review of all the papers in this bibliography. The authors review the rationale for using portfolios, present a definition for portfolios, discuss purposes for portfolios and how this can affect their content, summarize portfolio systems for various purposes, provide examples of questions that can be used to stimulate student self-reflection, discuss composite portfolios, review development considerations, and discuss issues related to the use of portfolios as assessment tools.

(TC# 150.6USIPOI)

Arter, Judy, Vicki Spandel, and Ruth Culham. *Portfolios for Assessment and Instruction*, 1994. Available from: Northwest Regional Educational Laboratory, 101 SW Main St., Suite 500, Portland, OR 97204, (503) 275-9500, fax (503) 275-9489.

This short paper was developed for the ERIC digest series. It summarizes current consensus about portfolios.

(TC# 150.6PORFAS)

Athanases, Steven Z. *Teachers' Reports of the Effects of Preparing Portfolios of Literacy Instruction*. Located in: The Elementary School Journal 94, March 1994, pp. 421-439.

The author examines the impact on classroom instruction and assessment of teacher-developed portfolios by documenting teacher literacy and reading instruction for a school year. After constructing their portfolios, 24 third- and fourth-grade teachers convened in June for two days of portfolio follow-up exercises at an assessment center. This article examines one third-grade teacher's portfolio, along with her reflections on how the project influenced her teaching and thinking. Self-report data from 18 other teachers extend this teacher's reflections on the pedagogical and nonpedagogical effects of the teacher portfolio. Teachers reported using more varied strategies for assessing student progress and improvement in planning and adapting literature-based language arts instruction. They also reported enhanced reflection about teaching, self-confidence, and sense of collegiality.

(TC# 130.6TEAREE)

Austin, Terri. *Changing the View—Student-Led Parent Conferences*, 1994. Available from: Heinemann, 361 Hanover St., Portsmouth, NH 03801.

Although this short book is formally about student-led parent conferences, it is really about much more. The author discusses the need (and how to) change the interactions between students and teachers on a day-to-day basis in the classroom, how to build the student skills needed for the parent conference, and how to better interact with parents. These are essential building blocks for student-led parent conferences and for building an environment in which students take control of their own learning.

The author provides great ideas for:

- Building a sense of community in the classroom
- Communicating with parents
- Identifying what parents and what students value

- Clarifying what we value by discussing the criteria for success
- Encouraging self-reflection
- Grading
- Actually setting-up and doing the conferences
- Portfolio logistics and management

The book contains lots of letters, student work, student dialogue, and self-reflections. No technical information is included.

(TC# 150.6CHAVIS)

Barrett, Helen C. *Technology-Supported Assessment Portfolios*. Located in: The Computing Teacher 21, March 1994, pp. 9-12.

The author reviews software that has been developed to support classroom portfolio development. The author describes the systems but provides no critical review from the standpoint of what constitutes a sound portfolio system. Some evaluation is done of the unique features of each system (e.g., video, sound, scanning, storage of checklists). The author also makes an overall evaluation of the most flexible systems currently on the market, and provides recommendations on what hardware is needed to adequately operate the software.

(TC# 150.6TECSUA)

Barton, James, and Angelo Collins. *Portfolios in Teacher Education*. Located in: Journal of Teacher Education 44, May-June 1993, pp. 200-210.

The authors describe the use of portfolios for undergraduate literature and graduate science teacher-education students. The authors discuss the rationale for use of portfolios, the portfolio process, key questions, and specific application to literature and science. Among the points they make are:

1. The purposes include: (a) the need to model new instructional strategies if we expect students to subsequently use them in their classrooms when they become teachers, and (b) the need to match goals for students in higher education classes to appropriate assessment—"As a program changes, so must the ways that success in meeting the program's objectives are measured. The rapidly evolving role of reading specialists demands change in the evaluation of professional competence."
2. The key steps in developing a portfolio system which works is that the purpose for the portfolio has to be clearly established at the beginning (e.g., one goal or purpose in literacy is that "the student will integrate theory and practice so that he or she can

create their own thematically based literature lessons"); evidence is then compiled to show that the student has successfully accomplished the purpose of the portfolio; and, finally, the portfolio is evaluated using the question, "Am I convinced that the student has met or made progress toward the stated goal?"

No samples of student work are included. Criteria for portfolios are discussed. No technical information is included.

(TC# 130.4PORTEE)

Beacon Heights Elementary School. *Portfolio Power, 1992.* Available from: Beacon Heights Elementary School, 1850 South 2500 East, Salt Lake City, UT 84108.

This book was written by the K-6 students at Beacon Heights Elementary School because of their excitement about portfolios. One chapter was written by each grade level. The book includes: student definitions of portfolios, uses of portfolios as perceived by the students, quotes about the value of portfolios, lots of "how to" and practical tips, an appendix with forms, and some samples of student work. This would be a good book to share with students.

(TC# 400.3PORTPR)

Belanoff, Pat and Marcia Dickson, Eds. *Portfolios Process and Product, 1991.* Available from: Boynton/Cook Publishers, Inc., Heinemann Educational Books, Inc., 361 Hanover St., Portsmouth, NH 03801, (603) 431-7894.

This book is a compendium of papers by different authors that describe their portfolio experiences. The book is organized around different purposes for portfolios—proficiency testing, program assessment and instruction, and a final chapter on political issues.

Much of the focus is on writing, but there are some specific chapters on business writing and writings in content areas. All papers describe college and university activities.

(TC# 000.6PORPRP)

Bellingham Public Schools. *Primary Performance Portfolio, Grades K, 1, 2 and Intermediate Performance Portfolio, Grades 3, 4, 5, 1992.* Available from: Bellingham Public Schools, Box 878, Bellingham, WA 98227, (206) 676-6400, fax (206) 676-2793.

This document is an outline of suggestions for implementing portfolios for grades 1-5. Included are:

- A list of essential learnings in each grade level combined with suggestions of the type of information that could be included as evidence of progress on each goal. For example, a student goal in grades 3-5 is "literature competency." Portfolios could include response logs, performance or project scoring rubrics, or strategies checklists as evidence of attainment of this goal.
- Checklists and scoring guides for some of the skills. For example, fairly nice development continuums for reading, science, social studies, art, writing and mathematics are included, each having six levels (pre, emergent, beginner, developing, capable, and experienced). These are incorporated into a report card.

Also included are some materials for two units: history and energy. It is not clear how this material is used nor why it is included.

No technical information nor samples of student work are included.

(TC# 000.3BELPUS)

Bird, Tom. *Notes on an Exploration of Portfolio Procedures for Evaluating High School Biology Teachers*, 1989. Available from: Teacher Assessment Project, Stanford University, School of Education, CERAS 507, Stanford, CA 94395, (415) 725-1228.

This article describes the work on portfolios done in the biology component of the Teacher Assessment Project through March, 1989. The preliminary content outlined for the portfolio includes seven "entries": a self-description of previous teaching background and current teaching environment; a unit plan; a log of student evaluation procedures; a description of a lesson in which a textbook is substantially supplemented or replaced with other materials; a videotape of a laboratory lesson; a log of professional interactions; and a log of community interactions. Candidates are given some choice as to which of these to include.

The article describes these "entries" in some detail, and adds information about considerations in developing them.

(TC# 130.4NOTONA)

Bird, Tom. *The Schoolteacher's Portfolio: An Essay on Possibilities*, 1988. Available from: Teacher Assessment Project, Stanford University, School of Education, CERAS 507, Stanford, CA 94395, (415) 725-1228.

Similar to the previous entry, this paper explores issues and considerations surrounding teacher portfolios: problems associated with borrowing the notion of "portfolio" from other fields, purposes that a teacher's portfolio might serve, local

arrangements in which portfolios might be constructed, and how portfolios might be fitted to the work of teaching.

(TC# 130.6SCHTPO)

Bishop, David. *On Curriculum Alignment, Anacondas, and Reading Assessment.*
Located in: Kentucky English Bulletin 39, Winter 1990, pp. 58-66.

In this paper the author reviews some of the problems with using norm-referenced, multiple-choice tests to measure student progress in reading, and then describes a possible portfolio approach for grades K-6. A very useful part of the paper is a description of what the author feels the portfolio should show about students. There are six key areas: fluency (ease with reading, amount read, frequency of reading), power (norm- and criterion-referenced test scores), growth (changes in skill, affect and independence), range (diversity of reading, reading in other subject areas), depth (depth of understanding of individual readings and a focal point for reading), and reflection (self-reflection and reflection on the writing of others).

(TC# 440.3ONCURA)

Bishop, Wendy. *Revising the Technical Writing Class: Peer Critiques, Self-Evaluation, and Portfolio Grading.* Located in: The Technical Writing Teacher 16, Winter 1989, pp. 13-25.

This paper proposes that technical writing classes include more than just the conventions of writing in a particular discipline. They should also attend to the rhetorical principles that underlie all writing. The author has tried several activities in her class to promote this idea: students analyze their own writing process; students interview writers in their field; students generate critique sheets and critique each other's work; and portfolios.

The paper includes criteria students have developed to critique technical writing, and lots of help with implementing these ideas, including incorporating them into grading.

(TC# 470.6REVTEW)

Booth, Virginia Humphreys. *Splashy Portfolios Kids Can Make Themselves.*
Located in Instructor, July/August 1994, pp. 123-124.

This two-page article describes one teacher's approach to having students personalize their portfolio folders.

(TC# 150.6SPLPOK)

Brandt, Mary E. *When Are Writing Portfolios Powerful?* Located in: The Kamehameha Journal of Education 4, Spring 1993, pp. 97-104. Available from: Early Education Division, Kamehameha Schools, 1887 Makuakane St., Honolulu, HI 96817.

The author presents the position that the real value of portfolios is in the service of student learning, and that if we are going to get the maximum benefit from portfolios, we should use them to do what only they are capable of doing in instruction—in-depth reflection and involvement in the learning process. She feels that if we are going to keep portfolios from going down the path of other educational fads, we need to put learning first.

(TC# 470.6WHEWRP)

Braunger, Jane. *Portfolios in the Language Arts Classroom: Some Observations*, 1991. Available from: Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland, OR 97204, (503) 275-9588, fax (503) 275-9489.

The paper presents some of the questions that have arisen from a group of teachers attempting to implement portfolios in their classrooms in Portland Public Schools, and presents some possible directions for discussion of these questions. Questions include such things as: "What is a portfolio?", "What goes into a portfolio?", and "Who owns the portfolio?" Discussion surrounding these questions includes observations and comments by teachers involved in the project.

(TC# 400.6PORLAC)

Buell, Nancy. *An Overview of Six Portfolio Assessment Projects in the State of Alaska (or "At First They Thought It Was an Animal They Were Going to Feed")*, 1991. Available from: State of Alaska, Department of Education, 801 W. 10th St., Suite 200, Juneau, AK 99801, (907) 465-2821.

The state of Alaska has encouraged innovative assessment projects in its districts for a number of years. Over the past three years it has assisted a number of school districts whose interests were in the areas of portfolios. The state has convened conferences and sharing sessions, given out grants for projects, and offered moral support through recognition letters and presentations at conferences. This report was commissioned by the state of Alaska to report on the work of six districts that received portfolio development grant money from the state.

The author interviewed the project coordinators and at least one teacher from each site. Complete transcripts of the interviews are included. The author notes the following:

1. The major reason cited by all the districts for developing portfolios for assessment and instruction is that standardized, norm-referenced tests do not measure the important aspects of student performance in the areas of writing, reading, spelling, speaking and listening.
2. Other reasons included the desire to have students become partners in their learning, and better communication with parents.
3. Parental reactions have been very positive.
4. Most projects have tried or are considering having student self-selection of work, and self-reflection on work.
5. One of the biggest advantages in setting up a portfolio system is that teachers have the opportunity to discuss at length the targets they have for students.
6. Teachers felt most comfortable with the systems that had specific criteria for selecting items for the portfolio and for evaluating the content.
7. Teachers felt increasing control over the processes of learning.

Emerging issues included:

1. There was some concern that sharing such information with students that were not doing well would harm self-esteem. However, teachers that tried it felt that students liked the system because even slow students could see progress.
2. How much should the portfolio be standardized? All content? Categories of content? How does standardization fit in with use for large-scale assessment? How does use for large-scale assessment affect its use in the classroom?
3. Teachers found that putting together the portfolios took a lot of time. This might, however, just be part of the process of change.
4. Who owns the portfolio?
5. How do we go about doing this in other subject areas?

(TC# 150.6OVEOFS)

Burnham, Chris. *Portfolio Evaluation: Room to Breathe and Grow*. Located in: C. Bridges (Ed.), *Training the Teacher*, 1986, pp. 125-138. Available from: NCTE, 1111 Kenyon Rd., Urbana, IL 61801, (217) 328-3870.

This paper describes a procedure for using portfolios to assess students in college composition classes. (It could also be adapted to high school.) The procedure encourages student self-evaluation—students choose samples of their own work to

place in their portfolio. Although all papers are critiqued, not all are graded. It also discusses how grading can be incorporated into the scheme (for example, students provide justification for a grade they request) and how to handle students that cannot function without papers being graded.

(TC# 470.3POREVR)

Calfee, Robert C., and Pam Perfumo. *Student Portfolios: Opportunities for a Revolution in Assessment.* Located in: Journal of Reading 36, April 1993, pp. 532-537.

The authors report on a survey of teachers to determine actual practice with respect to reading and writing portfolios. They surveyed 150 selected teachers, and held a two-day conference for 24 of them. Results showed that teachers:

1. Believe that they are more in charge of their instructional programs
2. Describe many benefits for students resulting from taking responsibility and selecting their own work
3. Do not attend to technical aspects of portfolios such as reliability and validity
4. Have no systematic way of analyzing, scoring, or grading portfolios

The authors are very optimistic about the possibility of portfolios reforming education.

(TC# 440.6STUPOO)

California Assessment Collaborative. *Charting the Course Toward Instructionally Sound Assessment—A Report of the Alternative Assessment Pilot Project,* September 1993. Available from: California Assessment Collaborative, 730 Harrison St., San Francisco, CA 94107, (415) 241-2704.

The California Assessment Collaborative was designed as a three-year effort to systematically identify, validate, and disseminate alternatives to standardized testing throughout the state. This report presents findings from the first year of work of 22 pilot projects. It also discusses their costs and impacts and uses them to make

- recommendations about future work.

Some of the projects emphasize portfolios.

(TC# 150.6CHACOU)

California Department of Education. *California Learning Record—Handbook for Teachers, K-6, and Handbook for Teachers, 6-12, Preview Edition, 1993.*
Available from: UCSD Bookstore, University of California @ San Diego,
9500 Gilman Dr., La Jolla, CA 92093, (619) 534-4430.

The *California Learning Record* (CLR) yields a portfolio of information about a student's annual language and literacy progress in K-12 classrooms. Progress is based on observation and anecdotal records, and on consultations with parents and students themselves. As students mature, they take on responsibility for providing evidence of their learning. Pilot tested by California teachers since 1988, the CLR is an adaptation of the *Primary Language Record*, developed at the Centre for Language in Primary Education in London, England. A major California contribution is the extension of the record of achievement to middle and secondary schools, using the base of literacy development to support students' academic progress in all subject areas.

The *CLR Handbooks for Teachers, K-6 and 6-12* provide rationale, descriptions and examples of how the CLR works. Included with each handbook are master copies of the CLR forms, both the summary and the data collection forms. Not included are technical information nor criteria for judging progress.

(TC# 400.3CALLER2)

California Department of Education. *Golden State Examination Science Portfolio—A Guide for Teachers and Students, 1994-95.* Available from: **California Department of Education, 721 Capital Mall, Sacramento, CA 94244,**
(916) 657-2451.

The GSE Science Portfolio is an optional part of California's Golden State Examination, an assessment system designed to allow students to demonstrate how much they know and can do. Passing the GSE results in an academic endorsement on the student's high school diploma. Endorsements are available in science, social studies, and language arts. The Science Portfolio score is added to the scores on the other portions of the assessment system (multiple choice, short answer, essay, and laboratory) if it improves overall performance.

The Science Portfolio is developed during a year of high school biology, chemistry, or integrated science and must include a self-generated problem-solving investigation; a creative expression (expressing a concept in science in an alternative way that enhances meaning, e.g., art, music, writing); and "learning through writing" (a series of pieces that demonstrates growth in the understanding of a science concept). Each of the three pieces includes a cover page that describes why the piece was chosen and requires students to self-reflect on the development process.

Each of the three entries (together with the cover page) is scored holistically (one score) based on such things as conceptual understanding, group collaboration, and quality of communication. There is also a rubric for scoring the portfolio as a whole.

Some technical information is included. Contact the authors for samples of student work.

(TC# 600.3GOLSTE2)

California Department of Education. *Science Portfolios—The Watershed* 1, October 1992. Available from: California Assessment Program, California Dept. of Education, PO Box 944272, Sacramento, CA 94244, (916) 657-3747.

This copy of the newsletter *The Watershed* contains an article on writing in science, ideas on science portfolios, and a nice statement of assessment as an instructional tool.

(TC#600.6SCIPOW)

Calkins, Annie. *Language Arts Portfolio Handbook for the Primary Grades (Third Edition)*, 1993. Available from: Curriculum Dept., Juneau Borough Schools, 10014 Crazy Horse Dr., Juneau, AK 99801, (907) 463-1967, fax: (907) 463-1712.

This entry describes Juneau's language arts portfolio for grades 1-3. Included are the following:

- The multi-year timeline for the project
- An introduction, including rationale
- The portfolio content checklist of what to include and when to include it. Each portfolio must include: a student statement of how he or she feels about him or herself as a reader and writer; two self- and teacher-selected reading samples (one per semester), a teacher assessment using a reading developmental continuum; an annual reading attitude survey; two writing samples (first and fourth quarters) assessed using an analytic rubric; a teacher assessment using a writing developmental continuum; and teacher assessments using speaking/listening continuums.

Teachers are encouraged to also include anecdotal observations, oral language cassettes, developmental spelling lists, reading logs, and drawings/illustrations.

- A portfolio definition
- Samples of all continuums, checklists, and rating forms
- A survey of parental attitudes toward the portfolio project

- A letter to parents explaining the portfolio system
- A complete set of instructions for administering structured grades 1 and 2 writing assessments
- A set of letters from first and second graders, describing what they learned in a year in school

All rating scales emphasize analyzing the developmental stage of the student as a way of noting progress.

(TC# 400.3JUNINL4)

Campbell, Jo. *Laser Disk Portfolios: Total Child Assessment*, May 1992. Located in: Educational Leadership 49, May 1992, pp. 69-70. Also available from: Conestoga Elementary School, 4901 Sleepy Hollow Blvd., Gillette, WY 82716.

This article briefly describes a new project in Conestoga Elementary School for grades K-6 in which videodiscs are being used to record and save student performances. It appears that the project is just in its beginning stages.

(TC# 000.3LASDIP)

Carr, Barbara. *Portfolios: A Mini-Guide*. Located in: School Arts 86, March 1987, pp. 55-56.

This short paper provides help on how to begin art portfolios with students. Her suggestions include: work as a team, let students put in anything they want, revise the content on a regular basis, organize work into categories, select the best work from each category and use it as a standard, show off both strengths and versatility, package it well.

(TC# 810.6PORFOL)

Center for Performance Assessment. *California Portfolio Projects, March 1994 Update*. Available from: Educational Testing Service Center for Performance Assessment, 6425 Christie Ave., Suite 160, Emeryville, CA 94608, (510) 596-5855, fax (510) 601-1155.

This is a bibliography of portfolio projects being implemented in the state of California.

(TC# 000.1CALPOP)

Clemmons, Joan, Lois Laase, DonnaLynn Cooper, et al. *Portfolios in the Classroom: A Teacher's Sourcebook*, 1993. Available from: Scholastic Professional Books, Scholastic Inc., 2931 E. McCarty St., Jefferson City, MO 65102.

This booklet describes one elementary school's portfolio system for documenting student growth in reading and writing. The system includes emphasis on student control, self evaluation, and goal setting. The authors:

- articulate well that the goal of portfolios is to allow students to take control of learning
- describe the kinds of classrooms in which portfolios are most likely to be successful
- outline a step-by-step plan for getting started and involving parents
- describe a procedure for teaching self-evaluation and goals-setting skills
- help with student-teacher portfolio conferences
- include complete portfolios for a second- and fifth-grade student
- include an appendix of reproducible letters, questionnaires, forms, and charts

(TC# 400.3PORCLT)

Coalition of Essential Schools. [*Various Articles on Exhibitions of Mastery and Setting Standards*], 1982-1992. Available from: Coalition of Essential Schools, Brown University, Box 1969, One Davol Sq., Providence, RI 02912, (401) 863-3384.

Although not strictly about portfolios, this series of articles discusses performance assessment topics and goals for students that are relevant. The articles are: *Rethinking Standards: Performances and Exhibitions: The Demonstration of Mastery: Exhibitions: Facing Outward, Pointing Inward: Steps in Planning Backwards: Anatomy of an Exhibition*, and *The Process of Planning Backwards*.

These articles touch on the following topics: good assessment tasks to give students, the need for good performance criteria, the need to have clear targets for students that are then translated into instruction and assessment, definition and examples of performance assessment, brief descriptions of some cross-disciplinary tasks, the value in planning performance assessments, and the notion of planning backwards (creating a vision for a high school graduate, taking stock of current efforts to fulfill this vision, and then planning backward throughout K-12 to make sure that we are getting students ready from the start).

(TC# 150.6VARARD)

Coleman, Laurence J. *Portfolio Assessment: A Key to Identifying Hidden Talents and Empowering Teachers of Young Children*. Located in: Gifted Child Quarterly 38, Spring 1994, pp. 65-69.

The "Early Assessment for Exceptional Potential of Young Minority and/or Economically Disadvantaged Students" project trained teachers to assess exceptional potential in young students and alter their instruction using portfolios.

Project participants first identified 18 primary identifiers of exceptional potential. These included such things as "exceptional memory, demands a reason for unexplained events, keen sense of humor," and "shows initiative."

These were then defined and illustrated with videotapes of children manifesting the behaviors. Teachers collected evidence of the identifiers from various sources—observations, home survey, etc. Teachers developed instructional "action plans" from the portfolios. Extensive training and support was provided for project teachers. The paper is a frank discussion of both the achievements and problems faced by the project.

(TC# 050.6PORASK)

Collins, Angelo. *Portfolios for Science Education: Issues in Purpose, Structure, and Authenticity*. Located in Science Education 76, 1992, pp. 451-463.

The author teaches preservice science teachers. This paper discusses design considerations for portfolios in science and applies these considerations to portfolios for student science teachers, practicing science teachers, and elementary students. The design considerations he suggests are:

1. Determine what the portfolio should be evidence of. What will the portfolio be used to show?
2. Determine what types of displays should go in the portfolio to provide evidence of #1. He suggests and describes artifacts (work produced), reproductions of events (e.g., photos, videotapes), attestations (documents about the work of the person but prepared by someone else), and productions (documents prepared especially for the portfolio).
3. View the portfolio as a "collection of evidence" that is used to build the case for what is to be shown. Those developing the portfolio should determine the story to be told (based on all the evidence available) and then lay this out in the portfolio so that it is clear that the story told is the correct one.

(TC# 600.6PORSCE)

Collins, Angelo and Thomas M. Dana. *Using Portfolios with Middle Grades Students*. Located in: Middle School Journal, November 1993, pp. 14-19.

The main focus of this paper is a portfolio system for middle school students to demonstrate their proficiency in communicating. Students can choose evidence from any course but have to have at least one piece of writing, one audiotape of something spoken, and one visual piece. Students have mailbox slots in their homerooms in which to place evidence.

Students met in teams every two-three weeks to review portfolio content. Portfolios are scored holistically for the quality of the evidence and self-reflection, not for progress in communication.

There is lots of help with implementation but no sample student work nor technical information. The scoring guide is sketchy.

(TC# 000.3USIPOM)

Community Experiences For Career Education, Inc., (CE)₂. *Record of Student Performance*, undated. Available from: Tigard High School, 9000 Durham Rd., Tigard, OR 97223, (503) 684-2108.

Community Experiences For Career Education, (CE)₂, is an alternative high school program which offers students aged 16 through 18 a comprehensive secondary school experience through involvement on community and commercial sites. Students pursue a full-day learning program designed to meet their individual academic and career development needs. Students do not attend standardized courses, nor do they receive grades or time-bound credits. Successful completion of the program qualifies the student for a standard high school diploma.

Student accomplishments are documented using a portfolio with certain specified elements. This portfolio is used for job application or educational placement. Content includes:

1. "Certification of Student Performance." This is a form that summarizes the projects, competencies, explorations, work experience, and basic skills completed by the student each year. Staff comments are included.
2. More detail on accomplishments. This information is summarized on a series of forms covering basic skills, life skills, citizenship competencies, career development, and skills development. The forms are completed by various individuals including project staff, employers, and community workers.

Information might include the dates that various projects were completed (e.g., "legislature project, 4/18/74"); competencies that were demonstrated (e.g.,

"maintain a checking account, 9/25/73"); time spent exploring job options (e.g., "city maintenance dept., 9/13/74"); and test scores.

3. "School Placement Information." This is a form which translates the previous projects into more traditional subject area equivalent grades.
4. Student comments
5. Letters of recommendation and transcripts from other places

Most of the information is descriptive of the tasks or projects completed by the student. Although judgments of quality of student efforts are implied, there are no specified criteria for these judgments.

(TC# 220.3RECOFS)

Cooper, Winfield, and Jan Davies, (Eds). *Portfolio Assessment Clearinghouse Newsletter*, 1990 to present. Available from: San Dieguito Union High School District, 710 Encinitas Blvd., Encinitas, CA 92024, (619) 753-6491.

The Portfolio Assessment Clearinghouse publishes the *Portfolio News* quarterly. Articles include descriptions of portfolio projects, statements concerning how and why portfolios could or should be used, reviews of literature, etc.

Copies of the newsletter are included.

(TC# 000.6SANDIP)

Cowan, Janelle. *Southwest Region Schools Teacher and Substitute Teacher Portfolios*, 1989. Available from: Southwest Region Schools, Box 90, Dillingham, AK 99576, (907) 842-5288, fax: (907) 842-5428.

There are two professional portfolios in this packet. The first is the *Teacher Portfolio for the Improvement of Instruction*. The teacher portfolio contains several types of information:

- a. A narrative written by the teacher that describes a personal plan for classroom activities that will support the mastery-of-school adopted objectives for the year. This narrative is updated during the school year by adding progress reports, changes in goals, activities that relate to the goals, etc.
- b. Checklists completed by the site administrator at least four times a year that cover lesson plans, room organization, student participation, instruction, classroom control and recording of student progress.

- c. Four videotaped lesson presentations that are rated on various aspects of the clinical teaching model: reinforcement, anticipatory set, closure, modeling, motivation, active participation and retention activities.

The second document is the *Substitute Teacher Handbook and Inservice Guide* used to select qualified substitute teachers. Substitute teacher applicants must first submit a persuasive letter that is rated on neatness, staying on the subject, imagination, sentences, mechanics, and ideas. They also have to submit a vita. The remainder is a training manual on roles, responsibilities, class management, fire drills and requirements for submitting lesson plans. There is a substitute teacher self-quiz.

Copies of all rating forms and checklists for both documents are included.

(TC# 130.4SOURES)

Crowley, Mary L. *Student Mathematics Portfolio: More Than a Display Case.*
Located in: The Mathematics Teacher 86, October 1993, pp. 544-547.

The author discusses the use of mathematics portfolios to document progress on the "big" NCTM outcomes—problem solving, valuing mathematics, developing mathematical confidence, communicating mathematically, and reasoning mathematically. She includes a fair amount of detail on a middle school example—sample letter to students outlining the task, a description of what students need to include and a hint of how content might be assessed. The portfolio is semi-structured—the teacher specifies categories of entries and the student selects which samples of work to include in each category. Students must also write explanations for their selections.

A few samples of student work are included. Detailed performance criteria are not included.

(TC#500.3STUMAP)

Daws, Donald. *Schoolwide Portfolios.* Located in: Student Portfolios, 1993, pp. 33-45. Available from: **National Education Association (NEA) Professional Library**, PO Box 509, West Haven, CT 06516, (800) 229-4200.

This paper describes a cross-disciplinary portfolio system developed at an alternative high school. The paper (1) includes a description of the steps the teachers went through to learn about and develop their system; (2) provides sound advice for portfolio implementors, (3) has complete statements of their definitions and rationale for portfolios, logistics, and the goals to be documented in the portfolio; (4) explains the necessity to treat portfolios as any other change—it takes time and study; and (5) discusses some realizations about instruction and change that occurred as a result of the project.

Some interesting advice is:

- Take into account that the change process will raise personal as well as educational concerns. These personal concerns will need to be addressed before progress can be made on the educational considerations.
- Remember that the implementation of portfolios is a slow and evolving process.
- Begin the process by having a small group of committed people read and study the literature pertaining to portfolios. This group can then synthesize the information and make a presentation of its findings to the entire faculty.
- Develop both formal and informal methods to keep the faculty informed of developments, to answer questions, and to alleviate concerns.
- Be aware that starting an innovation like portfolios may bring into question other school practices, such as instructional methods and the departmentalization of the curriculum.

Some interesting observations about the change process are:

- It seemed to help to disassociate the mechanics of portfolios from the student goals to be assessed/enhanced through the portfolio. The author says, "...some people seemed to need an opportunity to develop and incorporate routines involved in the portfolio process before they felt able to address and coordinate portfolio use with the outcomes. In fact, having a portfolio process in place has made it easier for us to begin focusing on the essential outcomes."
- Teachers new to the idea of portfolios are often most interested in the impact on themselves. Teachers commonly asked questions like: "What will the portfolios look like?" "Where will they be stored?" and "Who will be responsible for selecting, filing, and sorting student work?" Only after systems are in place do teachers ask, "How will students benefit from portfolios?" The author notes that, "Until the personal concerns of the individuals affected by the change are addressed, little progress can be made on the educational issues."

(TC# 000.3SCHWIP)

DeFabio, Roseanne. *Characteristics of Student Performance as Factors in Portfolio Assessment*, 1993. Available from: National Research Center on Literature Teaching and Learning, University at Albany, State University of New York, 1400 Washington Ave., Albany, NY 12222.

The author describes a framework for describing what students are able to do in the study of literature and what to look for in portfolios to assess student learning in

literature. These could be considered criteria for assessing a literature portfolio. The factors are: range, flexibility, connections, conventions, and independence.

(TC# 400.3CHASTP)

DeFina, Allan A. *Portfolio Assessment: Getting Started*, 1992. Available from: Scholastic Professional Books, 730 Broadway, New York, NY 10003.

This short book does a good job of listing the decisions to be made when developing and using portfolios, but provides the most useful and practical help in the sample checklists and letters in the back.

(TC# 150.6PORASG)

Denus, Janice de, and Brenda St. Hilaire. *Portfolios With Real Value? Teacher Portfolios*, 1992. Available from: Seven Oaks School Division, 830 Powers St., Winnipeg, MB, R2V 4E7, Canada, (204) 586-8061, fax: (204) 589-2504.

The authors discuss the first year of the implementation of a plan to replace traditional teacher evaluation with teacher portfolios. In this program, teachers keep ongoing documentation of work that shows their growth as a teacher. General guidelines for the areas to think about are: teaching, planning, student evaluation, professional exchange, and community exchange. Teachers also include a commentary on their own growth. The document includes a research plan for evaluating this policy.

(TC# 130.4PORREV)

Donaldson, Peter. *Critique: Teaching Students How To Evaluate*, 1991. Available from: Islander Middle School, Mercer Island School District, 4160 86th Ave. SE, Mercer Island, WA 98040, (206) 236-3400.

This middle-school teacher has turned all grading in his art classes over to his students. He has them develop their own criteria for both judging/critiquing the artwork itself and for judging the critique of the artwork. The document we have includes the teacher's rationale for this approach, the goals he has for students, a sample rating form used by students to critique each other's artwork, a sample rating form used by students to critique each other's critiques, a form for self-critique, and a philosophy statement from ARTS PROPEL.

Criteria for critique include accurately observed proportions, craftsmanship, composition, detail, accurate illusion of depth, and accurately observed shading. Criteria for the critique of the critique include thoroughness, specificity, and good organization. (In a private communication the teacher also noted these things for a

critique of critique: thoroughness, accuracy, synthesis of ideas, details supporting points, and analysis of the work. For a self-critique he would also add self-revelation.)

(TC# 810.3CRITES)

Doolittle, Peter. *Teacher Portfolio Assessment.* Located in: Measurement Update 4, June 1994, pp. 5-6. Available from: ERIC Clearinghouse on Assessment and Evaluation, The Catholic University of America, Department of Education, O'Boyle Hall, Washington, DC 20064, (202) 319-5120.

This short article is a nice summary of considerations in developing a professional portfolio for teachers. In essence, the authors endorse a model described by the following quote: "Ideally, a teacher portfolio is a document created by the teacher that reveals, relates and describes the teacher's duties, expertise, and growth in teaching. Each assertion in the portfolio is then documented in an appendix or a reference to outside material, such as videotapes or lengthy interviews. The size of a portfolio varies, but it is typically two to ten pages, plus appendices."

(TC# 130.6TEAPOA)

Education Development Center, Inc. *Assessment of Student Learning in Video Projects.* Located in: News from the Center for Children and Technology and the Center for Technology in Education 2, January 1994, p. 6. Available from: Education Development Center, Inc., Center for Children and Technology, 96 Morton St., 7th Fl., New York, NY 10014, (212) 807-4200.

This short paper outlines a portfolio system designed to assess student video projects. Included are some of the performance criteria.

No technical information nor samples of student work are included.

(TC# 800.3ASSSTL)

Elbow, Peter and Pat Belanoff. *State University of New York, Stony Brook Portfolio Based Evaluation Program.* Located in: Connelly & Vilard (Eds.), New Methods in College Writing Programs, 1986, pp. 95-104. Available from: Modern Language Association of America, 10 Astor Pl., New York, NY 10003, (212) 475-9500.

These two articles describe the use of writing portfolios to assess student competence at the SUNY-Stony Brook campus. Each student submits three self-selected, revised pieces and one in-class writing sample. The self-selected pieces include: (a) one narrative, descriptive, expressive or informal essay; (b) one academic essay; and (c) one analysis of another's essay. Each piece is accompanied by an explanation of what

was to be accomplished by the piece, and a description of the process of writing the piece. All pieces are judged by teaching staff, but not the students' own teachers, as being pass or fail. A passing grade on the portfolio is a necessary but not sufficient condition to satisfy the writing requirement at the college. A dry run occurs at mid-semester so that students can see how they are doing. The documents also discuss the advantages and disadvantages of the process as well as what worked and what didn't work. The document is descriptive and does not include actual student work or rating forms.

(TC# 470.3STAUNO)

Elliott, Nikki, and Carol Harriman. *Feasibility Study of the Use of Portfolios for Placement in English 001, 101, or 102 at the University of Nevada, Reno, 1990.* Available from: Nevada State Department of Education, Capitol Complex, Carson City, NV 89710, (702) 687-3913.

This set of documents reports on a pilot study to determine the feasibility of using high school writing portfolios to make student placement in college English classes faster, easier and better than use of ACT or SAT scores.

The portfolios were compiled by students as an outgrowth of their regular classroom instruction in three college-bound English classrooms at the Washoe County School District (58 students in all). Students could choose what went into their portfolios, but items had to be of the following types: best piece, a previously graded piece that had been further revised, and a third piece written specifically for this portfolio (a journal entry taken through the process to a final draft). The students also had to write a metacognitive letter to the readers that included a discussion of oneself as a writer and a justification of the inclusion of each piece of writing.

Three university instructors read the portfolios (each portfolio read twice) and rated them holistically on a scale of 1 to 5. Anchor portfolios for each of the five scale points were developed as part of this process and are included in this document. Placement results were compared between readers and traditional test scores. Test scores misplaced students 1/4 of the time.

(TC# 470.3FEASTO)

Ellsworth, Jill H. *Assessment of Prior Learning Through Portfolio Development.* Located in: Adult Assessment Forum 2, Fall 1992, p. 8. Available from: AAF, PO Box 52069, Phoenix, AZ 85072.

This brief article describes a project in which portfolios are used to document prior learning in adults to give alternative course credit for life experiences.

(TC# 150.6ASSPRL)

EQUALS Project. *Assessment Alternatives in Mathematics*, 1989. Available from: Lawrence Hall of Science, University of California, Berkeley, CA 94720, (510) 642-0738.

This document provides an overview of some possible methods in mathematics that assess both process and products. Specific examples are provided for writing in mathematics, mathematical investigations, open-ended questions, performance assessment, observations, interviews, and student self-assessment. Any of the student generated material could be self-selected for a portfolio of work. The paper also includes a discussion of assessment issues and a list of probing questions teachers can use during instruction.

(TC# 500.6ASSALI)

Erickson, Melinda. *Developing Student Confidence to Evaluate Writing*. Located in: The Quarterly of the National Writing Project & the Center for the Study of Writing and Literacy 14, 1992, pp. 7-9.

This article is more about setting up a classroom environment that supports peer review, risk-taking, and self-reflection than it is about portfolios. However, this environment is important for successful implementation of a portfolio project.

(TC# 470.6DEVSTC)

Farr, Roger, and Beverly Farr. *Integrated Assessment System*, 1990. Available from: The Psychological Corporation Service Center, PO Box 839954, San Antonio, TX, 78283, (800) 228-0752.

The *Integrated Assessment System* consists of two parts—the *Language Arts Performance Assessments* and the *Language Arts Portfolios* which can be purchased separately or together. It is designed for grades 1-8.

The *Performance Assessments* consist of three reading booklets for each grade level that reflect a variety of text types and topics, and a guided writing activity that leads to a written product based on the reading. The writing activities include story endings, persuasive essays, reports, historical fiction, letters, and brochures. Writing is assessed using a three trait system—response to reading (the amount and accuracy of information from the reading), management of content (organization and development), and command of language (word choice, sentence structure, grammar, and mechanics). The writing activities encourage process writing including collaboration.

The *Language Arts Portfolio* provides materials to assist teachers and students to collect work samples and track development. Included are portfolio folders, a storage box, a training video, and a teacher's manual. The teacher's manual includes

information about how to keep portfolios, the rationale for portfolios, the importance of student self-selection and self-reflection, sample forms that might be part of the portfolio (such as reading and writing logs, table of contents, student self-reflection, and context for entry).

The manual provides good advice on approaches to instruction and conferencing with students. However, suggestions for assessing progress of students appear to be somewhat limited. The manual suggests that the portfolio be assessed for amount of reading and writing done, student's general attitudes and interests, and the student's use of reading and writing strategies (using the various forms provided). There does not appear to be mention of assessing the quality of entries except for a general judgment on whether the student is making progress. In many cases, no detailed definitions of ratings or sample student performances are provided. For example teachers rate "general attitude toward reading" and "making progress, maintaining progress, or needs improvement" without a detailed definition of what these mean.

No technical information is provided.

(TC# 400.3INTASS2)

Feeney, T.M. *ROPE: Rite of Passage Experience Handbook*, 1984. Available from: Walden III Alternative High School, 1012 Center St., Racine, WI 53403.

This handbook provides an overview of ROPE, a performance assessment-based high school graduation requirement. Student competency in 16 areas (e.g., reading, writing, science, math, American history, world geography, American government, fine arts, mass media, multicultural awareness, etc.) is evaluated through a portfolio, a research project, and a series of demonstrations.

The handbook describes these tasks in some detail. For example, the portfolio must include: an autobiography, two letters of recommendation, a reading bibliography, two book reports, a self-reflection on ethical judgment, science course work, a science experiment, plus a number of other fairly specified items.

Although the handbook describes the tasks in some detail, the criteria for judging quality of performance is discussed only briefly — students are given grades (A-E). Additionally, specific qualities of the various tasks and demonstrations that are of importance are sometimes mentioned in the task description. For example, in the description of the ethical judgment essay students are told that reasoning is the important dimension—statements must be supported with evidence. There are also no samples of student work included.

(TC# 000.3ROPEWI)

Ferguson, Shelly. *Zeroing in on Math Abilities.* Located in: Learning92 21, 1992, pp. 38-41.

The paper was written by a fourth grade teacher and describes her use of portfolios in math — what she has students put in their portfolios, the role of self-reflection, getting parents involved, and grading. She gives lots of practical help. One interesting idea in the paper has to do with grading. At the end of the grading period she reviews the portfolios for attainment of concepts taught (not amount of work done), and progress toward six goals set by the NCTM standards (e.g., thinks mathematically, communicates mathematically, and uses tools). She marks which goals were illustrated by the various pieces of work in the portfolio and writes a narrative to the student.

Another interesting idea is formal presentations of their portfolios by students to their parents. The article provides a sample comment form for parents and students to complete.

(TC# 500.3ZERMAA)

Fingeret, Hanna Arlene. *It Belongs To Me: A Guide to Portfolio Assessment in Adult Education Programs*, 1993. Available from: Literacy South, Snow Building, 331 W. Main St., Durham, NC 27701, (919) 682-8108.

This is a short paper on the use of portfolios in adult literacy programs, based on interviews by the author with a number of programs developing this concept. Although the paper states that it is emphasizing assessment portfolios (showcase, presentation), their actual steps for implementation also imply their use as an instructional tool. For example, the first step is "clarify your beliefs about literacy and their relationship to how you work with students." Some assistance with student self-reflection is also provided.

Not included are samples of student work, criteria, or technical information.

(TC# 440.3ITBELM)

Flood, James and Diane Lapp. *Reporting Reading Progress: A Comparison Portfolio for Parents.* Located in: Reading Teacher, March 1989, pp. 508-514.

The authors describe the content of a reading portfolio designed to show student progress to parents. They suggest the portfolio contain test scores (norm-referenced and criterion-referenced), informal assessments (IRIs), samples of student writing at the beginning and end of the school year, student self-evaluations, and samples of the material students can read at the beginning and end of the school year. The article

includes three-questions for students, to promote self-analysis of reading processes, but does not include sample checklists or IRI's.

(TC# 400.3REPREP)

Frazier, Darlene M. *Composite Portfolio In Special Education*, 1991. Available from: Leon Paulson, Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

This composite portfolio was assembled by a classroom teacher as part of a class in portfolios conducted by Multnomah ESD. The plan for the portfolio uses the Cognitive Model for Assessing Portfolios (TC# 150.6HOWDOP and 150.6MAKOFA). This model requires that the teacher decide ahead of time the rationale for assembling the portfolio, what the portfolio is intended to show, the criteria by which performance will be analyzed, and the stakeholders and audiences. The model further requires that the results be analyzed with the context for their production in mind, and that there is student self-reflection on the portfolio entries.

In this case, the teacher wanted to show growth in writing as measured by the six-trait analytical model used in Oregon and elsewhere, and to improve students' self-analysis using this model. The students self-selected a piece of writing for the portfolio at monthly intervals. This selection included both the rough and final drafts, and the student's own ratings of his or her work. Samples of student self-analysis of their writing were also included.

The teacher used these student work samples to analyze student progress, and wrote a metacognitive letter stating what she learned about student writing and the evidence from the samples to support these conclusions.

The article includes both the self-selected samples of student work, and the criteria used to analyze the work.

(TC# 470.3COMPOI)

Frazier, Darlene and F. Leon Paulson. *Portfolio Assessment: Students Finding a Voice*, 1991. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 255-1841.

This is one special education teacher's story of developing a composite writing portfolio for 4th grade learning disabled students. As part of a class she was taking on portfolios, she asked her students to help her put together a portfolio by selecting their own work that would show what they are learning. Thus, the portfolio was to contain more than one students' work, and was to help the teacher self-reflect on herself as a teacher.

By midyear the students wanted their own portfolios. The teacher emphasizes the need for self selection and self evaluation to build ownership.

(TC# 470.3PORASF)

Gahagan, Hilary Sumner, Dewayne Smith, and Shelley King. *Project P.R.I.D.E.*

Available from: Beaverton School District, PO Box 200, Beaverton, OR 97075, (503) 591-8000, fax: (503) 591-4415.

This document is a set of handouts from a conference presentation. They are very readable and present a good overview of Project P.R.I.D.E.—an inclusion program for special education students that utilizes language arts portfolios to document student progress and communication with parents. It also encourages students to take control of learning. The handouts include a description of the portfolio system, a form for student self-evaluation of their portfolios, a feedback questionnaire for parents, and daily schedules.

(TC# 400.3PROPRI)

Gardner, Howard and Thomas Hatch. *Multiple-Intelligences Go To School.*

Located in: Educational Researcher 18, 1989, pp. 4-10.

This article describes Gardner's theory of multiple intelligences and three programs that are built on the idea of multiple intelligences (Arts PROPEL, Key School, and Project Spectrum). The authors propose that assessment of students in programs built on the theory of multiple-intelligences require the use of portfolios. The programs described use portfolios for assessing student progress and program evaluation. The article also includes a description of the Modified Field Inventory to determine the intelligences preferred and used by students.

(TC# 050.6MULING)

Gearhart, Maryl, Joan Herman, Eva Baker, and Andrea Whittaker. *Writing Portfolios at the Elementary Level: A Study of Methods for Writing Assessment*, 1992. Available from: National Center for Research on Evaluation, Standards, and Student Testing, UCLA Graduate School of Education, 145 Moore Hall, 405 Hilgard Ave., Los Angeles, CA 90024, (310) 206-1532.

The authors reported on a study that addressed the following questions: (1) Can portfolios be scored reliably? (2) Are such judgments valid? (3) Are students scored comparably on their portfolios and other writing assessments? (4) How did raters feel about scoring portfolios?

Results showed that: (1) Holistic ratings of portfolios and class work can be very reliable; (2) Raters tended to rate collections (the portfolio as a whole) higher than the average of the component individual scores (individual pieces of work in the portfolio) raising the possibility that additional factors are at work; (3) Portfolio scoring has promise provided that teachers and students assemble the portfolios to show competence along the dimensions assessed (i.e., students and teachers need to know the criteria so that they can select content).

This report also provides the scoring guide (but no sample student work) that was used to score individual pieces of work and the portfolio as a whole.

(TC# 470.3WRIPOE)

Gentile, C. *Exploring New Methods for Collecting Students' School-Based Writing*, 1992. Available from: Education Information Branch, Office of Educational Research and Improvement, US Department of Education, 555 New Jersey Ave., NW, Washington, DC 20208, (202) 219-1828.

This report describes the National Assessment of Educational Progress' (NAEP) 1990 pilot writing portfolio project, designed to see how information from NAEP's timed writing sample could be supplemented by work samples submitted by students. Specifically the study: (1) explored procedures for collecting classroom-based writing from students around the country; (2) developed methods for describing and classifying the variety of writing submitted; and (3) created general scoring guides that could be applied across papers written to a variety of prompts or activities.

A sample of 4,000 fourth and 4,000 eighth grade students in the 1990 writing assessment were asked to submit one sample of their best writing (with drafts). Teachers included a description of the assignment that produced this writing.

The report describes the three holistic scoring guides developed (for narrative, expository, and persuasive pieces), provides anchor papers, includes many other samples of student writing, and analyzes the results of the pilot and changes in procedures needed for the 1992 assessment to correct some problems encountered. Results were compared to those obtained for the timed writing sample.

Please note that the purpose for NAEP's "composite" portfolio is large-scale assessment, not instruction. However, the scoring guides and sample student papers might be useful for a variety of educational purposes.

(TC# 470.3EXPNEM)

Glazer, Susan Mandel and Carol Smullen Brown. *Portfolios and Beyond: Collaborative Assessment in Reading and Writing*, 1993. Available from: Christopher-Gordon Publishers, Inc., 480 Washington St., Norwood, MA 02062, (617) 762-5577.

The authors of this book state their purpose as being to elucidate assessment procedures that parallel and support a more holistic approach to language arts instruction. The book has some good ideas on the following topics:

1. The type of classroom environment that is necessary to support this instructional model: a student-centered environment that allows students to read and write for real reasons, develop a community of learners, be comfortable taking risks, and share control of learning.
2. A self-assessment checklist for evaluating a "literacy environment" that focuses on supplies and room arrangement. It does not include instructional approaches, although there is a section on how to manage a "student-centered" classroom.
3. Information to help students self-reflect, self-assess, and control their own learning, including self-evaluation checklists and open-ended questions.
4. The need for ways to more formally summarize and report progress. There are chapters on writing and reading. The writing chapter has progress summary forms and developmental continuums; the reading chapters cover think-alouds and retelling. There is also help with how to do them and what to look for in student responses. (This is frequently left out of whole-language books.)
5. Information to help interact with parents
6. Practical help with finding the time, storing work, etc.

Lots of student work is included. Technical information is not included.

(TC# 400.6PORBEY)

Gomez, M.L., and Janice Schenk. *What Are Portfolios? Stories Teachers Tell*, 1992. Available from: University of Wisconsin-Madison, Room 456-A, Teacher Education Building, 225 North Mills St., Madison, WI 53706, (608) 263-6527.

The authors expand on the notion that portfolios tell a story. They present two case studies to illustrate the points that:

1. It is easy to unconsciously use the portfolio to justify decisions that we have already made about students rather than letting the true story emerge from the work.

2. Sometimes teachers do all the story-telling. It may be more useful to let all the main characters in the story (student, teacher, and family) tell the story.

(TC# 150.6WHAARP)

Grady Profile Portfolio Assessment Product Version 2, 1994. Available from:
Aurbach & Associates, Inc., 8233 Tulane Ave., St. Louis, MO 63132,
(314) 726-5933.

This document contains demo materials for a software package that allows the user to collect, store and retrieve a variety of student products and information using a Mac Hypercard system. The document includes a rationale statement for portfolios, a description of the software product, and a demo disk that allows the user to see how the system works with one case example. The user still needs to plan what work will be collected and how to assess progress (although there do appear to be some checklists built into the system).

(TC# 150.6GRAPRO2)

Graves, Donald, and Bonnie Sunstein. *Portfolio Portraits*, 1992. Available from:
Heinemann Educational Books, Inc., 361 Hanover St., Portsmouth, NH 03801,
(603) 431-7894.

This book has three parts: descriptions of the portfolios kept in five different classrooms (grades 1, 5, 8, college sophomore, and master's candidate), papers on the politics of portfolios, and profiles of four portfolio keepers (school superintendent, college senior, grade 2 student, and grade 2 bilingual student).

The premise of the book is that portfolios are still too new in instruction to make definitive statements about what they are and what they can do. (And, especially too new for use in large-scale assessment.) The author suggests seven principles to insure positive growth with respect to portfolios:

1. Involve the students.
2. Help staff keep their own portfolios.
3. Broaden the purpose of portfolios.
4. Keep instructional opportunities open.
5. Reexamine issues in comparability.
6. Study the effect of school policy on portfolio practice.
7. Enlist the ingenuity of teachers.

The approach taken is to provide examples of portfolio systems and case studies of portfolio keepers to assist the reader in seeing some of the possibilities. The book

includes a chapter on using portfolios in large-scale assessment by Jay Simmons. (See Simmons, 470.3PORLAA)

(TC# 150.6PORPOR)

Grosvenor, Laura. *Taking Assessment Matters Into Our Own Hands.* Located in: Student Portfolios, 1993, pp. 9-17. Available from: National Education Association (NEA) Professional Library, PO Box 509, West Haven, CT 06516, (800) 229-4200.

The author discusses a six-month pilot project in which a group of elementary school teachers developed and tried out a plan for literacy portfolios. In addition to good tips about how to organize an assessment group, the author discusses the group's portfolio plan and emphasizes the link to instruction. She says, "One of the greatest changes that came about as a result of the use of portfolios and the exploration of alternative assessments was the realization that assessment is integrally tied to teaching strategies; and if our assessments change, so must our teaching."

(TC# 400.3TAKASI)

Gursky, Daniel. *Maine's Portfolio-Based Recertification Process Overcomes Administrators' Initial Skepticism.* Located in: Education Week 11, May 20, 1992.

This is a newspaper article that briefly describes Maine's portfolio-based recertification process for school administrators. Eighteen months before they are to be recertified, each administrator must develop a professional growth action plan based on a self-review of competency in 13 knowledge areas outlined by the state board of education. Compiling a portfolio is part of the self-assessment. The portfolio is also used to document growth toward the goals in the action plan. Recertification is tied to completion of the action plan. The article provides a few examples, gives some endorsements of the system by those having experienced it, and discusses some spin-offs.

(TC# 110.3MAIPOB)

Hackett, Rachelle Kisst. *The Functions of Teacher-Student Portfolio Conferences Within an Assessment System*, 1993. Available from: Rachelle Kisst Hackett, 1048 Walnut Ave., Fremont, CA 94536.

Paper presented at annual conference of the American Educational Research Association. The author describes a study of what students experience as participants in a seventh grade math class where portfolios are used, and their impact on instruction. A major question was "what happens with students as they select and

reflect on work." To answer these questions the author examined 45 student portfolios and videotaped student-teacher conferences about them. Portfolios contained one student-selected piece of work from each of five instructional units and a self-reflection about each piece.

Reflections were analyzed to see: (1) what students reported they learned, and (2) evidence of student engagement in the task. (The categories to describe student self-reflective comments may be of use to others.)

The author concludes that the self-reflection tasks, as used in these portfolios, were not really occasions for solidifying or promoting mathematical thinking and were not useful for analyzing what students have learned.

However, the author did find that "simply having a portfolio over which the teacher and student could conference may lead to interaction that could serve a variety of useful functions." These functions are described and samples of dialogues are included.

The author concludes that portfolios may not be useful as assessment documents for outside reviewers because they are not contextualized enough and because often what is known is not well represented in the portfolio. Interviews around the portfolio help supply this additional context and detail.

[It also may be that students need more practice and help in "doing portfolios" so that the final product (as well as the process) is more useful as an assessment (and instruction) tool.]

(TC# 500.6FUNTES)

Hancock, Jane. *But...What About Grades?* Located in: Portfolio News 2, 1991, p. 3. Also available from: Portfolio Assessment Clearinghouse, San Dieguito Union High School District, 710 Encinitas Blvd., Encinitas, CA 92024; and Jane Hancock, Toll Junior High School, Glendale Unified School District, 700 Glenwood Rd., Glendale, CA 91202.

This is another article about how a ninth grade teacher uses portfolios to assign grades. Basically, no grades are assigned until the end of the term, and then students select the papers that will form the basis of their grades. However, there is extensive student/teacher interaction on all papers throughout the term.

(TC# 150.6BUTWHA)

Hansen, Jane. *Literacy Portfolios Emerge*. Located in: The Reading Teacher 45, April 1992, pp. 604-607.

The author describes a sixth grade teacher's experience developing a literacy portfolio for her students: both the steps needed to build the competencies required by students to put together their own portfolios, and the classroom environment needed to encourage true student portfolio development. Some of the skills she had students practice were: discussing books; describing the reasons for the book choices they made; conducting a discussion without a teacher present; and discussing what, in their reading, still confuses them.

When students had the necessary skills, they were introduced to the concept of a "literacy portfolio" in which they show who they are as readers. This will then build later into "who the student wants to be as a reader," which requires additional skills in self-reflection and development of criteria.

(TC# 440.6LITPOE)

Hansen, Jane. *Literacy Portfolios: Helping Students Know Themselves*. Located in: Educational Leadership 49, 1992, pp. 66-68. Also available from: University of New Hampshire, Morrill Hall, Curham, NH 03825.

This short article provides a good idea of what a literacy portfolio is and the positive effects the process can have on students. The author describes a K-12 project in which students are completely in control of what goes in their portfolios, and any rationale is accepted at face value. The idea is to build self esteem and to help students get to know who they are as readers. Items from outside of school are encouraged. There is also some help in the article with how to get started and how to promote self reflection.

There is no discussion of criteria, but there are some examples of what students placed in their portfolios and why.

(TC# 400.3LITPOH)

Harbor, Matthew J. and Joseph D. Rivard. *Learning Activity Portfolios for Exploring Literature*. Located in: Journal of Reading 37, February 1994, pp. 418-419.

Learning Activity Portfolios (LAPs) are designed to help students discover and explore literature. The particular example in the article was high school student exploration of the novel *Dracula*. The portfolio is highly structured.

The paper includes no technical information, scoring guides, or sample student work.

(TC# 440.3LEAACP)

Hearn, Jill. *Portfolio Assessment: Tracking Its Implementation and Use in One Elementary School*, 1992. Available from: Adelaide Elementary School, 1635 SW 304th, Federal Way, WA 98023, (206) 927-3111.

This paper is especially interesting because it discusses implementation issues: teacher buy-in, logistics, time, storage, and parent concerns. The project involved writing portfolios in grades 1-6.

(TC# 150.6PORASU)

Heath Reading. *A Guide to Language Arts Assessment Portfolios*, 1991. Available from: D.C. Heath and Company, Lexington, MA.

This booklet describes how to integrate the concept of a portfolio with the Heath reading series. The booklet makes some very good points but primarily focuses on items that are already available from Heath.

(TC# 400.6GUILAA)

Hebert, E.A. *Portfolios Invite Reflection—From Students and Staff*. Located in: Educational Leadership 49, 1992, pp. 58-61. Also available from: Crow Island School, 1112 Willow Rd., Winnetka, IL 60093.

The author briefly describes a portfolio project and alternative progress reporting strategy used in Crow Island School for grades K-8. Interesting aspects of this project include: the cooperative learning process that the school staff undertook to plan and implement their ideas; the fact that the process of examination of values became at least as valuable as having new assessment systems; encouragement of student self-reflection in several ways including "Portfolio Evenings" with parents and the addition of a personal reflection in their reporting form to parents.

There is no mention of criteria for assessing progress and no samples of student work.

(TC# 000.3PORINR)

Herter, Roberta. *Writing Portfolios: Alternatives to Testing*. Located in: English Journal, January 1991, pp. 90-91.

This short article relates one teacher's observations of the positive effect that using portfolios has had on her grade 11 students. These positive effects have included:

students taking responsibility for learning, increasing insight, becoming a community of writers, collaborating and cooperating, seeing themselves as writers, and developing and using criteria to critique writing. The article emphasizes the central importance of self-reflection.

(TC# 470.6WRTPOA)

Hessler, Arthur C., and Susan Kuntz. *Student Portfolios: Effective Academic Advising Tools*. Located in: Assessment Update — Progress, Trends, and Practices in Higher Education 4, November-December 1992, pp. 6-8, 9. Also available from: Saint Michael's College, Colchester, VT 05449.

The authors report on a study to learn about the effects of basing first-year high school student advising on portfolios of student work gathered by students across classes. Specific questions included whether students felt they obtained better advising, and whether advisers felt they were better able to provide academic advice.

Students were asked to keep the following information in their portfolios: a values/goals questionnaire, a scored writing sample and content assessments taken by all first-year students at the beginning of the fall semester, and examples of papers (drafts, laboratory reports, examinations, etc.) as they were accumulated from courses. At the end of the year, a written self-assessment of academic and co-curricular experiences was added. Students using portfolios rated their advisers as being significantly more helpful than did students not using portfolios. Advisers also felt that they were able to give students better advice when they had portfolios to look at.

(TC# 223.3STUPOE)

Hetterscheidt, Judy, Lynn Pott, Kenneth Russell, et al. *Using the Computer as a Reading Portfolio*. Located in: Educational Leadership 49, 1992, p. 73. Also available from: Bellerive School, 666 Rue De Fleur, Creve Coeur, MO 63141.

The authors briefly describe their use of a commercially available Macintosh Hypercard system that allows their fifth grade students to scan writing, record themselves reading and giving self-evaluations, and keep track of comments and other notes. The emphasis is on recording progress and allowing for self reflection—samples are entered at various regular times during the school year.

(TC# 400.3USICOR)

Hibbard, K. Michael. *Region 15 Schools- Assessing WRITING Performance Tasks & Portfolios*, 1993. Available from: Region 15 School District, PO Box 395, Middlebury, CT 06762, (203) 758-8250.

Pomperaug Regional School District 15 staff have worked for seven years to define the most important products (such as graphs) and performances (such as oral presentations) which students should be able to make and do. "Lists" (rubrics), developed for each skill at the elementary, middle and high school levels, describe the salient features of performance and are used for grading and student self-assessment.

This document contains handouts used in a training session that appear to be an overview of the district student assessment system. In addition to a general overview and philosophy statement, the handouts include sample assessment materials in science, social studies, math, and writing for grades 1-12.

(TC# 470.3ASSWRP)

Hill, Bonnie C., Patricia Kamber, and Lisa Norwick. *Six Ways to Make Student Portfolios More Meaningful and Manageable*. Located in: Instructor, July/August 1994, pp. 118-121.

The authors discuss strategies for a successful portfolio project:

- Define the portfolio's purpose
- Teach students to self-reflect
- Discuss portfolio's content with students on a regular basis (e.g., 10 minutes/week)
- Have regular "portfolio swaps" among students
- Regularly share portfolios with parents
- Give yourself time

The authors include questions to promote student self-reflection.

(TC# 150.6WAYMAS)

Horn, Kermit, and Marilyn Olson. 1992-1993 Lane County Fourth Annual Project Fair. Official Guidelines, Criteria & Registration Forms for Grades K-12.

Available from: Kermit Horn or Marilyn Olson, Project Fair Coordinators, Instructional Services Division, Lane Education Service District, PO Box 2680, Eugene, OR 97402, (503) 689-6500.

This document is the handbook given to students in grades K-12 interested in registering for the Lane County project fair. It contains information on registration, criteria by which projects will be judged, as well as help with getting started.

The document also gives some excellent ideas on interdisciplinary projects

Some journal entries from past submissions are included to show students what to do. No samples that illustrate score points on criteria are included and the criteria, although an excellent start, are still a little sketchy.

(TC# 000.3LANCOP)

Howard, Kathryn. *Making the Writing Portfolio Real*. Located in: The Quarterly of the National Writing Project 27, Spring 1990, pp. 4-7. Also available from: The Center For The Study of Writing, 5513 Tolman Hall, School of Education University of California, Berkeley, CA 94720, (415) 643-7022.

The author was involved in developing a portfolio process with the goal of reflecting students' views of themselves as writers. The steps in this process included:

1. Establishing a climate in which students could freely express their feelings about their own writing and that of others. This entailed the oral sharing of writing, with question content, tone of voice and question phrasing initially modeled by the teacher. This developed not only an atmosphere of acceptance but also increasing depth in the analysis of each other's work.
2. Asking students for written self-reflections. Students were asked to address two issues: Discuss one thing that is done well in your writing. Discuss one thing that needs to be improved in your writing. Student responses were initially superficial, but gained depth with modeling and feedback.
3. Asking students to choose, from their work folders, the writing that was of most "importance" to them. Students answered the following questions:
 - a. Why did you select this piece of work?
 - b. What do you see as the special strengths of this work?
 - c. What was particularly important to you during the process of writing this piece?

- d. What have you learned about writing from your work on this piece?
 - e. If you could go on working on this piece, what would you do?
 - f. What particular skill or area of interest would you like to try out in future pieces of writing that stems from your work on this piece?
 - g. What kind of writing would you like to do in the future?
4. Having students choose both a satisfactory and an unsatisfactory piece of writing and analyzing the differences. A list of suggested questions is included.
 5. Having students finalize their portfolios for the year by reconsidering previous choices.

This process resulted in increasing students' ownership of their work and relying on themselves and peers for assistance in improving their work.

(TC# 470.6MAKTHW)

Hulsart, Richard. *Student Portfolio Process*, 1990. Available from: Colorado Department of Education, State Office Building, 201 E. Colfax Ave., Denver, CO 80203, (303) 866-6685.

The Colorado Department of Education has developed a number of documents to assist school districts with alternative assessment devices. Student Portfolio Process outlines suggestions for developing two types of portfolios:

1. The Transition Skills Portfolio—A collection of documents verifying a young person's achievement of the skills essential for making a successful transition to further education or employment. The student must identify educational and career goals and then accumulate evidence that there has been progress towards these goals. Some suggestions for portfolio entries include: a career education development plan, a resume, a profile of the achievement of transition skills, samples of outstanding work, a schedule of the essential steps in applying for college or employment, a budget for college, completed applications, and a checklist of important interview skills.
2. The Performance Portfolio—A collection of student produced work that serves as evidence of the development of skills in various subject areas. Some ideas for what to include are: a summary of test results, profiles of the student's development of specific skills, written reports, drawings and photographs, a journal of experiences with an analysis of personal growth, participation in group activities, and a career development plan. These should be filed by date so that student growth can be illustrated.

This document illustrates again that the purpose of the portfolio will have a major influence on what is chosen to include in it. No evaluation criteria for the portfolios are included.

(TC# 150.6STUPOP)

Hunt, David. *Preparing a Portfolio*. Located in: The Instrumentalist 41, 1986, pp. 30-38.

This article contains recommendations for a professional portfolio for music teachers. Suggestions for things to include are: vita, educational philosophy, recommendations, contest results, concert programs, letters from students, taped work samples, compositions, field shows, awards, publications, curriculum, and newspaper clippings. The article also has suggestions for packaging and presenting the portfolio.

(TC# 810.4PREAPO)

Hunt, Rhonda, and Jill Harper. *Student Metacognitive Training, Developing Student and Teacher Evaluation Criteria—Language Arts Portfolio Assessment*. Available from: Douglas County School District, 1419 NW Valley View Dr., Roseburg, OR 97470, (503) 440-4015, fax (503) 440-4003.

This document is a set of handouts from a conference presentation. Although it's not always clear how the material links together, there are enough items of interest to include on the bibliography.

First, the project is designed for young students and includes portfolios, writing assessment, and systems helping students to develop and use criteria. Samples of student writing are included as are samples of criteria for writing development by grade 1 students.

Second, student self-review rating forms are included for writing, math, cooperative working, reading, verbal communication, global citizenship and life-long learning.

This document will *not* provide an overview of portfolios, help with implementation, or provide a detailed description of a sample system. However, it will provide information to knowledgeable users who are looking for the specific elements listed above.

(TC# 470.3STUMET)

Ingalls, Bob, and Joyce Jones. *There's a Lot of Things You Learn in English That You Really Can't See.* Located in: The Quarterly of the National Writing Project & The Center for the Study of Writing and Literacy 14, 1992, pp. 1-4.

The authors describe a project in which teachers attempted to formally "score" a sample of portfolios. They found it unsatisfying because of lack of knowledge of the context under which the work was produced; it was hard to know the significance of the items they saw. When they added students to the review and discussion process, it not only added context, but resulted in a community of learners—everyone learning from each other.

This points up (1) the need for rationale and/or context statements in order to understand the portfolios, and (2) the usefulness of reviews to promote self-reflection.

(TC# 470.3THELOT)

International Reading Association. *Portfolios Illuminate the Path for Dynamic, Interactive Readers.* Located in: Journal of Reading, May 1990, pp. 644-647.

This paper discusses the importance of classroom assessment in reading and how portfolios are one tool for this purpose. The authors present a general overview of what could be accomplished with students by doing portfolios, the importance of student self-reflection, and how portfolios might be used in the classroom.

(TC# 440.6PORILP)

Jasmine, Julia. *Portfolio Assessment for Your Whole Language Classroom*, 1992. Available from: Teacher Created Materials, Inc., PO Box 1214, Huntington Beach, CA 92647.

The author provides practical assistance on containers, cover sheets for portfolio entries, getting started, and letters to parents and others. She defines alternative assessment as "kid-watching." Although she defines a portfolio as "a method of giving a grade based on a collection of work," she does discuss portfolios for purposes other than to give grades. She does not spend much time on performance criteria or student self-reflection.

(TC# 400.6PORASL)

Johns, Jerry, and Peggy VanLeirsburg. *Portfolio Assessment: A Survey Among Professionals*, 1990. Available from: Northern Illinois University, Literacy Research Report No. 1, Reading Clinic, 119 Graham, DeKalb, IL 60115, (815) 753-1416.

The authors surveyed 128 teachers concerning their knowledge about and views toward literacy portfolios. The survey has four sections—self-rating of knowledge of the portfolio concept; rating the importance of including various types of items in a literacy portfolio (such as "audio tapes" or "student self-evaluations"); amount of agreement with four statements of rationale for portfolios (such as "authenticity" or "continuous and ongoing"); and rating the degree to which various practical problems (such as "managing content") were of concern.

Results showed that teachers feel they know very little about portfolios. Teachers, however, agree with the theoretical bases of portfolio assessment: authentic, continuous, multidimensional, and collaborative. Teachers also have a lot of practical concerns about implementing portfolios, and there is some disagreement about what should be kept in a literacy portfolio.

The survey does not include teacher knowledge about the possible technical limitations of using portfolios for assessment. Although the survey instrument is not included, it could be reconstructed from the various tables in the report.

(TC# 130.4PORASA)

Johnson, Judi Mathis. *Portfolio Assessment in Mathematics: Lessons from the Field*. Located in: The Computing Teacher 21, March 1994, pp. 22-23.

The author describes the results of a study in which she interviewed 20 successful math teachers. Her major conclusion is that math, assessment, and technology should not be competitors for teachers' attention, but components of a successful math classroom. Portfolios are used to document student learning, promote learning, and promote student responsibility for learning through self-reflection. Technology is used to learn concepts, produce work for the portfolios, and to produce the portfolio itself. Assessment is used to guide planning and influence instruction.

(TC# 500.6PORMAL)

Kekic, Terry. *Assessing A Teleproductions Course*. Located in: Student Portfolios, 1993, pp. 77-87. Available from: National Education Association (NEA) Professional Library, PO Box 509, West Haven, CT 06516, (800) 229-4200.

The author teaches video production at the high school level. The paper describes his experiences setting up a course that has to respond to real-life requests for service—videotaping classes, video yearbook, etc.

The author's current plan consists of having students bid on jobs, developing quality control checklists, self evaluation by students on each job, and video portfolios on which students keep track of their work. The body of work as a whole is the basis for a grade.

(TC# 800.3ASSTEC)

Kilmer, Mary. *Portfolio Project at Kraxberger Middle School.* Located in: Portfolio Assessment Newsletter 2, December 1990. Also available from: **Mary Kilmer, Kraxberger Middle School, 17777 Webster Road, Gladstone, OR 97207, (503) 655-3636.**

This article is a brief description of one teacher's experiences in assisting students to assemble their own integrated portfolios in grades 5-8. The portfolio can contain any work; all work is self-selected by the student. At the end of each quarter the portfolio is cleaned out, and final selections are made. The teacher assists the students to reflect on the reasons that the student has for selecting each piece that will remain. Questions include:

1. What makes this selection better than any other work you did this quarter?
2. What might you have done differently to improve this project?
3. Think back to all the steps and procedures involved in making this a project to be proud of....what would you offer, in words, as evidence that it was a valuable use of your time?
4. Anything else?

(TC# 000.6PORPRA)

Kimeldorf, Martin. *Creating Portfolios for Success in School, Work, and Life, 1994.* Available from: **Free Spirit Publishing, 400 First Ave N., Suite 616, Minneapolis, MN 55401, (612) 338-2068, fax (612) 337-5050.**

This book provides a nice blend of instructional and assessment uses for portfolios, with the primary emphasis on instruction and student self-control. The exercises are designed to promote student self-reflection and critical thinking. The student book also helps students determine what an audience might want to see, consider various uses for portfolios, meet specific requirements for portfolios, and demonstrate employability skills.

(TC# 000.6CREPOS)

Knight, Janice Evans. *Coding Journal Entries*. Located in: Journal of Reading 34, 1990, pp. 42-47.

This article describes a system for coding reading journal entries to promote student self-reflection and improve reading strategies and comprehension. The impetus for this system came from the author's observation that many reading journal entries were only superficial summaries of what was read. The author wanted to make journal entries more meaningful.

Each journal entry is coded by the student and/or teacher on level of thinking, metacognitive strategies, and confusion. Examples are:

1. Level of thinking—"R" means "recall," and "I" means "inference, prediction, or cause and effect."
2. Metacognitive strategy—"S" means "summarize," and "SQ" means "self-questioning."
3. Confusion—"O" means that the entry does not say anything significant, and "?" means that the entry indicated student confusion.

The promise of this system is that the coding system is integrated with instruction so that students learn what good reading strategies are, and then assess them in their own journal entries.

There is, however, no assistance with standards—what to expect from students of various ages and how to tell if students are progressing at an acceptable rate.

(TC# 440.3CODJOE)

Knight, Pam. *How I Use Portfolios in Mathematics*. Located in: Educational Leadership 49, 1992, pp. 71-72. Also available from: Twin Peaks Middle School, Poway Unified School District, 14012 Valley Springs Road, Poway, CA 92064.

The author describes her first year experimentation with portfolios in her algebra classes. She had her students keep all their work for a period of time and then sort through it to pick entries that would best show their effort and learning in algebra and the activities that had been the most meaningful. There is some help with what she did to get started and discussion of the positive effects on students. There is some mention of performance criteria, but no elaboration.

(TC# 530.3HOWIUS)

Kolanowski, Karen. *Use of Portfolios in Assessment of Literature Learning*, Report Series 3.7, 1993. Available from: National Research Center on Literature Teaching and Learning, University at Albany, State University of New York, 1400 Washington Ave., Albany, NY 12222.

The author reports on a survey of state, provincial and local educators concerning portfolio use. (The surveying occurred in 1991.) Interesting results included: (1) most portfolios included writing and some included reading and speaking; (2) the typical number of portfolio entries was 5-15; (3) most selection was done by students; (4) most scoring involved individual portfolio entries and was done by teachers; (5) about one-third of the respondents used portfolios for grading.

(TC# 400.6USEPOA)

Koretz, Daniel, Brian Stecher, Stephen Klein, et al. *The Vermont Portfolio Assessment Program: Findings and Implications*. Located in: Educational Measurement: Issues and Practice 13, Fall 1994, pp. 5-16.

The authors describe the Vermont portfolio assessment system, summarize key findings from a series of evaluations of the Vermont system, and discuss the implication of the findings for performance assessment in general.

Although somewhat technical, the paper clearly points out the reliability and validity concerns surrounding the use of portfolios for large-scale assessment, and the tensions between using portfolios for large-scale assessment and using portfolios for instructional improvement. In short, portfolios are not magic and they have to be thoughtfully implemented. The paper presents a very thoughtful discussion of the issues.

(TC# 000.6VERPOF)

Krest, Margie. *Adapting The Portfolio To Meet Student Needs*. Located in: English Journal 79, 1990, pp. 29-34.

This article was written by a high school writing teacher. It provides some hints and ideas for using and adapting portfolios based on several years of use in her own classrooms. Some of the ideas presented are:

1. She has students keep all their writing—drafts, revisions, prewriting material, suggestions from classmates, and final drafts. This allows for collaborative discussion of such things as how well the student can incorporate other people's suggestions into their work, and student willingness to take risks.
2. Not each piece of writing is graded. This encourages students to experiment. Grades are based on two scores—a portfolio score (reflecting the quantity of

writing, and/or the amount of revision, risk taking and changing they did on all their papers), and a "paper grade" based on one to three final products (ones that have been conferred about, revised and edited thoroughly).

The weight of these two components toward the final grade depends on the level of students and what they are working on. Sometimes the weighting for the two parts is decided collaboratively with the students.

3. The frequency of assessment varies by grade and what is being worked on. For example, if the emphasis is on fluency, assessment might only occur after each quarter so that students have time to work at becoming more fluent.
4. Students are encouraged to continue revising a paper as many times as they want. It can be regraded in subsequent portfolios.
5. Most writing is based on free choice. However, the author does require that all students do a minimum number of papers in various modes. The modes depend on the level of the student. For example, a college-bound student would be required to write a compare-contrast paper. These do not have to be among the papers that students choose to be graded.
6. The major goal is to encourage students to take responsibility for their writing as much as possible—what to write about, how much revision will be done, etc.

(TC# 470.6ADATHP)

Lambdin, Diana V. and Vicki L. Walker. *Planning for Classroom Portfolio Assessment*. Located in: Arithmetic Teacher, February 1994, pp. 318-324.

The authors report on the development of a portfolio system for their secondary mathematics students. (This was part of a larger project for all grade 3-12 teachers.)

The authors have students assemble a "permanent portfolio" from a "working portfolio." The working portfolio is a place to store all potential permanent portfolio entries. All portfolios are stored in an easily accessible place in the classroom. The goals are to promote student self-assessment, improve communication with students and parents, and gain a broader picture of the student than available with traditional tests. The goal is not to assess student knowledge. The authors include task guidelines that are given to students.

In addition to student and peer evaluation of portfolio selections and the portfolio as a whole, the teacher has guidelines for grading. Grades are based on diversity of selection, written reflections about selections, and portfolio organization. The authors present a little detail that flesh out these criteria.

The document includes some student work but no technical information.

(TC# 500.3PLAPOA)

Lee, Joyce. *Suggested Framework for Establishing a K-2 Portfolio Assessment System in the State College Area School District*, 1992. Available from: Central Intermediate Unit, Rd #1, Box 374, West Decatur, PA 16878, (814) 342-0884.

This document summarizes the first year of a K-2 portfolio project. It includes some general help on how to begin, how to get parents involved, and how to prune the portfolio for use by subsequent teachers. Two types of portfolios are being explored: working portfolios (less structured, child owned), and curriculum portfolios (more structured to track progress across time).

(TC# 070.3SUGFRE)

LeMahieu, Paul. *Writing Portfolio; Current Working Model*, 1991. Available from: Pittsburgh Public Schools, Division of Writing & Speaking, 341 S. Bellefield Ave., Pittsburgh, PA 15213, (412) 622-3500, fax: (412) 622-8578.

This package contains handouts about the PROPEL project, which has ended. The handouts were used for a presentation by Paul LeMahieu and Dennie Wolf at the *ASCD Consortium on Expanded Assessment* meeting, November 5-6, 1991 in San Diego. Included are:

- A brief description of the writing portfolio process, as visualized in PROPEL
- A form for students to fill out that becomes the table of contents for the portfolio
- A form for students to fill out that becomes the explanation of why each piece was chosen for the portfolio
- A form for teachers that organizes comments about the portfolio
- A list of clues for knowing when students are ready to do portfolios
- A self-report form on attitude toward writing
- Questions to prompt self-reflection on writing
- Instructions to students on how to review and update their portfolios
- A form for parents to use to review their child's portfolio
- A form for students to use to respond to their parents' review

- Student directions for reflecting on the development of a piece of work
- Student directions and forms for the "free pick"—the pieces in the portfolio that students have free choice to include
- A framework for evaluating the portfolio as a whole; and a list of steps for reviewing and revising this framework
- A summary of the important points about the PROPEL portfolio: basic philosophy, building a portfolio climate, etc.

(TC# 470.3WRIPOC)

LeMahieu, Paul G., Joanne T. Eresh and Richard C. Wallace, Jr. *Using Student Portfolios for a Public Accounting*. Located in: The School Administrator 49, December 1992, pp. 8-15.

This article is a very readable summary of the philosophy, approach, and assessment procedures for PROPEL, a portfolio project in art, music and writing begun in 1987. The majority of the article is on student portfolios being used for public accounting, including the idea of "audits" of portfolios by members of the community in order to "validate" the conclusions drawn by staff review of portfolios.

(TC# 000.6USISTP)

Levi, Ray. *Assessment and Educational Vision: Engaging Learners and Parents*. Located in: Language Arts 67, 1990, pp. 269-273.

This paper provides the rationale for and practical help with setting up an environment that encourages self-reflection by young students. It provides a beautiful example of how first grade students can self-reflect and trace their own progress. It also provides ideas for involving parents in reviewing progress and contributing observations.

(TC# 400.6ASSEDV)

Lewis, Linda. *Pilot Project For Portfolio Assessment*, August 2, 1990. Available from: Ft. Worth Independent School District, 3210 W. Lancaster, Ft. Worth, TX 76107, (817) 336-8311.

This paper reports on two activities undertaken as part of district inservice on writing. The first activity was to examine student writing folders to determine whether teachers could perceive any improvement in student writing from the training series they were involved with. The document is very sketchy on this activity. It just includes the review form used by teachers to review the folders and some graphs which are unexplained.

The second activity is more fully presented. Students in grades K-6 were to compare their writing samples from the beginning and end of the school year and write (or dictate) how they have grown in writing this year. Over 3000 student responses were analyzed. The document provides a description of what "strong," "average," and "weak" responses looked like at each grade, samples of student responses illustrating these scale points, and a list of the types of things students said at each grade. No summary or conclusion is included.

(TC# 470.3PILPRF)

Lewis, Linda. *Portfolio Transfer System*, 1990. Available from: Ft. Worth Independent School District, 3210 W. Lancaster, Ft. Worth, TX 76107, (817) 336-8311.

This document is a working draft describing the portions of student writing portfolios that should be transferred from one teacher to the next in grades 1-6.

(TC# 150.6PORTRF)

Little, Nancy, and John Allan. *Student-Led Teacher Parent Conferences*, 1988. Available from: Lugus Productions Limited, 48 Falcon St., Toronto, ON M4S 2P5, Canada, (416) 322-5113.

This monograph describes the rationale and procedures for having students plan and lead parent conferences. One part of this process is the student preparation of work folders to share with their parents. These folders have the characteristics of portfolios because:

1. The student selects the content, taking into consideration the purpose and audience.
2. The student determines what he or she wants to demonstrate to his or her parents. There is a set of metacognitive prompts for this purpose. These are: "While you look at my work with me, I want you to notice..." "These are the things I think I do well..."

The book contains a complete description of roles, responsibilities, and timelines for student led parent conferences. It also has sample letters to parents and sample student attitude surveys.

(TC# 150.6STULET)

Littleton Public Schools. *Using Alternative Assessments to Measure Progress Toward School and District Outcomes (Littleton Alternative Assessment Project)*, 1991. Available from: Littleton Public Schools, 5776 S. Crocker St., Littleton, CO 80120, (303) 347-3300.

This document was assembled by Littleton as part of a presentation for the ASCD Consortium on Expanded Assessment meeting in San Diego, 1991. One section of this document describes a research performance assessment for fifth graders that includes the task description and an outline of performance criteria.

(TC# 150.6LITALA)

Maier, Sondra. *Student-Led Portfolio Conferences*, 1993. Available from: Adelaide Elementary School, 1635 SW 304th St., Federal Way, WA 98023, (206) 927-3111.

This document contains handouts from a conference presentation. The handouts outline major points on the topics of: (1) advantages for students, teachers and parents in student-led parent conferences; and (2) implementation steps.

Also included are sample letters to parents, conference agendas, parent and guest response forms, and student self-reflection forms.

(TC# 150.6STULEP)

Malarz, Lynn, Marcia D'Arcangelo, and Leslie Kiernan. *Redesigning Assessment: Portfolios*, 1992. Available from: Association for Supervision and Curriculum Development (ASCD), 1250 N. Pitt St., Alexandria, VA 22314, (703) 549-9110.

This 40-minute video and related manual is part of a series of training materials on alternative assessment being produced by ASCD. The video shows a series of classroom activities centered around and interviews about portfolios. These samples are chosen to illustrate what portfolios are, the various types of portfolios teachers are experimenting with, portfolio conferences, and the benefits to teachers and students of portfolios.

The associated manual describes two uses for the video: a one-hour overview discussion of portfolios and a 3-1/2 hour workshop that addresses essential components of a portfolio, how teachers can implement portfolio assessment, how to sustain portfolios over time, how you can get started, etc.

(Note: This document is shelved under two different numbers — "t" refers to the written material, and "v" refers to the video.)

(TC# 150.6REDASOt and TC# 150.6REDASOv)

Marienberg, Jill. *Portfolio Contents*, 1990. Available from: Hillsboro High School District, 3285 SE Rood Bridge Rd., Hillsboro, OR 97123, (503) 648-8561.

This piece contains examples of student portfolios in writing, developed by grade 11 students for instructional purposes. Content includes a letter from the teacher that certifies the work as coming from the student, five self-selected writing samples of various types, and a cover letter from the student explaining why he or she selected these works. Several complete student portfolios (reproduced with the permission of the students) are included.

(TC# 470.3PORCON)

Mathews, Jackie. *From Computer Management To Portfolio Assessment*. Located in: The Reading Teacher, February 1990, pp. 420-21.

This article describes the basic design of a reading portfolio for grades K-2. The four core elements are: a reading development checklist, writing samples, a list of books read by the student and a test of reading comprehension. Optional elements include student self-evaluation, reading records, audio tapes, anecdotal records, pages from reading logs, or other measures a teacher or student feels would illustrate the growth of the student as a language learner.

The Reading Development Checklist includes concepts about print, attitudes toward reading, strategies for word identification and comprehension strategies. (Some of the individual items on the checklist are presented in the article.) The reading comprehension test was still under development at the time of this article.

The article also describes other necessary components for an innovation of this type: administrative support, a climate for change, people expert in the area of reading, a good staff development program, and grass roots interest.

(TC# 440.6FROCOM)

McClure, Robert M., Joseph Walters, Lisa Bietau, et al. *None of Us is as Smart as All of Us*, 1993. Located in: Educational Assessment 1(1), pp. 71-89.

The authors describe (1) a computer network designed to let teachers working on alternative assessments communicate directly with each other; (2) examples of the communications of three teachers, their ideas and progress; and (3) an analysis of the computer dialogue to draw conclusions about what it takes to change practices.

Included are great ideas for portfolio development and use, student-led parent conferences, and the professionalizing effects of teacher networking. From an analysis of network messages, the three biggest issues for teachers developing their portfolio

systems were logistics, establishing standards for evaluation, and rethinking the role of assessment. Each topic is discussed.

(TC# 150.6NONUSS)

McRobbie, Joan, Ed. *Using Portfolios to Assess Student Performance*, 1992.

Available from: Far West Laboratory, 730 Harrison St., San Francisco, CA 94107, (800) 645-3276.

This paper has an excellent summary of the reasons for doing portfolios and planning steps. It emphasizes the need to have a clear idea of what student outcomes are being assessed by the portfolio, i.e., what is the portfolio evidence of? Then you decide what to collect.

(TC# 150.6USIPOA)

Mengel, Scott. *Electronic Portfolios—One School's Story*, 1993. Available from:

Peakview Elementary School, Cherry Creek Schools, 19451 E. Progress Cir., Aurora, CO 80015, (303) 766-1996.

This document is a set of handouts from a conference presentation. It contains enough pages of sample "screens" from the author's electronic portfolio project for readers to get a good idea of how it works. Other pages in the handout provide miscellaneous information about Cherry Creek's assessment activities.

(TC# 150.6ELEPOS)

Meyer, Carol. *Assessment Court*, 1991. Available from: Beaverton School District, PO Box 200, Beaverton, OR 97075, (503) 591-8000, fax: (503) 591-4415.

This is the script for a skit given at the Northwest Evaluation Association (NWEA) alternative assessment conference, October 1991. Three sketches, simulating court cases, illustrate the importance of student ownership of the portfolio, issues surrounding the standardization of portfolios, and problems associated with adopting a prepackaged portfolio system.

(TC# 150.6ASSCOU)

Meyer, Carol. *From Folders to Portfolios (A Skit)*, 1990. Available from: Northwest Evaluation Association, 5 Centrepointe Dr., Suite 100, Lake Oswego, OR 97035, (503) 624-1951.

This skit is a light-hearted way to define what is meant by a portfolio and to highlight the differences between folders and portfolios.

(TC# 150.6FROFOT)

Meyer, Carol, Steven Schuman, and Nancy Angello. *NWEA White Paper On Aggregating Portfolio Data*, 1990. Available from: Northwest Evaluation Association, 5 Centerpointe Dr., Suite 100, Lake Oswego, OR 97035, (503) 624-1951.

This paper summarizes key issues and concerns related to aggregating assessment information from portfolios. The working definition of "portfolio" used in this document is:

"A portfolio is a purposeful collection of student work that exhibits to the student (and/or others) the student's efforts, progress or achievement in (a) given area(s). The collection must include student participation in selection of portfolio content; the criteria for selection; the criteria for judging merit; and evidence of student self-reflection."

The paper discusses a number of specific aggregation questions in six major areas. These areas, and a sample of the questions discussed in each are:

1. The impact of "newness" of portfolios on aggregating portfolio data.
2. Levels of aggregation of portfolio data
3. Potential conflicts for portfolios serving both purposes of instruction/individual assessment and large scale assessment.
4. Potential benefits of portfolios serving both purposes of instruction/individual assessment and large scale assessment.
5. Using appropriate methodology to aggregate portfolio data.
6. Other issues relating to aggregating portfolio data.

(TC# 150.6NWEWHP)

Michigan Department of Education. *Employability Skills Assessment Kit*, Statewide Version 1.0, December 1993. Available from: Michigan Department of Education, Employability Skills Project, PO Box 30008, Lansing, MI 48909, (517) 373-8393.

Students use the Employability Skills Assessment Kit to build a case that they have the skills necessary to be a successful employee. Students gather evidence in 12 skill areas: communication (writing, reading, speaking, listening), math, science and technology, problem solving, responsibility, organization, flexibility and initiative, career development, and teamwork (communicating, responsiveness, contributing, and membership).

The handbook includes guides for students, teachers, parents, and employers; examples of displays; criteria for success; self, peer, and evaluation materials and training information; and additional help such as using the portfolio for a job interview. This is a very complete and useful document.

No technical information is included.

(TC# 000.3EMPSCA)

Mondor, Colleen. *Effecting Change: Getting Started with Portfolios*, March 1994. Available from: Language Arts Consultant, Edmonton Public Schools, 1 Kingsway, Edmonton, AB T5H 4G9, Canada, (403) 429-8000.

This paper briefly describes several portfolio projects including a system for admission into a junior high school and a junior high school cross-disciplinary portfolio.

(TC# 150.3EFFCHG)

Monier, Jay. *The Senior Project*, 1990. Available from: Far West EDGE, Inc., 1817 Woodlawn Ave., Medford, OR 97504, (503) 770-9483.

This packet of papers includes an overview of the Senior Project, several articles written about it, and several pages from the *Senior Project Student Manual*.

The senior project requires the following: a research paper on a topic chosen by the student; a project that applies the knowledge gained during the research phase; and a 6-10 minute oral presentation about the research and project. Graduation depends on successful completion of all three parts of the Senior Project.

The *Senior Project Student Manual* provides assistance to the student on planning and carrying out the project. Only part of this manual is included in this packet. Included are documents for helping students to plan their project, and documentation and rating forms that must be included in the final Project Portfolio. The *Coordinator's*

Handbook contains instructions for the oral presentation portion of the project. This document is not included in the packet.

(TC# 150.6SENPPO)

Moss, Pamela. *Portfolios, Accountability, and an Interpretive Approach to Validity.*
Located in: Educational Measurement: Issues and Practice 11, 1992, pp. 12-21.

This article explores the possibilities of using portfolios for large-scale assessment and accountability. Specifically, the author discusses why we should enhance other assessment information with classroom-based contextual information, discusses what validity means in such cases, and provides an example with grade 8 students.

(TC# 470.6PORACI)

Mumme, Judy. *Portfolio Assessment in Mathematics, 1990.* Available from:
California Mathematics Project, University of California, Department of
Mathematics, Santa Barbara, CA 93106, (805) 961-3190.

This paper covers the following topics: what a mathematics portfolio is, the purpose of portfolios, what could go into a math portfolio, suggestions for the layout of the portfolio, how to select items for the portfolio, and some ideas on evaluating portfolios. An outline of criteria for evaluating portfolio content is provided, but not elaborated on.

(TC# 500.6PORASI)

Murdick, William. *Portfolios and Patterns of Choice, 1991.* Located in: Portfolio News 2, 1991, p. 2. Also available from: Portfolio Assessment Clearinghouse, San Dieguito Union High School District, 710 Encinitas Boulevard, Encinitas, CA 92024; and California University of Pennsylvania, California, PA 15419, (412) 938-4082.

This article describes one teacher's approach to using portfolios to assign grades in his 9th grade composition classes. The basic procedure is that students prepare four portfolios a year, the contents of which are some combination of assigned and self-selected work. The grade for the portfolio depends on the presence of all pieces of work, but not all of them can receive equal weight in the grade. The portfolio as a whole is graded, not individual papers. Several variations on this theme are discussed.

(TC# 150.6PORANP)

Murphy, Sandra, and Mary Ann Smith. *Talking About Portfolios*. Located in: The Quarterly of the National Writing Project, Spring 1990, pp. 1-3, 24-27. Also available from: The Center For The Study of Writing, 5513 Tolman Hall, School of Education, University of California, Berkeley, CA 94720, (415) 643-7022.

This article uses examples of three portfolio projects to make the point that there is no such thing as *The Portfolio*; different groups end up with different portfolio systems depending on their purposes and what would best serve the local community of teachers and students. Prior to discussing the three examples, the authors mention various possible purposes for portfolios and design considerations for portfolios. These are:

1. Purposes for portfolios could include motivating students, promoting learning through reflection and self-assessment, evaluating or changing curriculum, replacing or validating other tests, establishing exit requirements for coursework or graduation, tracking growth over time, and evaluating students' thinking and writing processes.
2. Design considerations include:
 - a. Who selects what goes into the portfolio—students or teachers?
 - b. What goes into the portfolio—finished pieces, impromptu samples, work in progress, multiple drafts, particular domains of writing?
 - c. How much should be included?
 - d. What might be done with the portfolios—evaluation criteria, scored as a whole or each piece separately?
 - e. Who hears about the results?
 - f. What provisions can be made for revising the portfolio program?

The authors conclude that:

1. The benefits of portfolios lie as much in the discussion generated among teachers as with the formal information they provide.
2. Portfolios have their greatest impact when they become part of the regular operation of the classroom.

(TC# 000.6TALABP)

My Writing Folder, 1990. (source unknown)

This document is a writing folder in which students can keep their work. Printed on the folder are places to write down ideas for writing, the places to write down titles and dates of entries in the folder, definitions of the six-trait analytical rating guide for writing (ideas, organization, voice, word choice, sentence structure, and conventions), definitions of different modes (types) of writing (imaginative, persuasive, descriptive, narrative, and expository), places to enter scores given to various pieces of writing, and a guide to writing as a process.

(TC# 470.6MYWRIF)

Myers, Miles. *Institutionalizing Inquiry*. Located in: The Quarterly of the National Writing Project and the Center for the Study of Writing 9, July 1987, pp. 1-4.

This article broadly discusses the level of literacy required for today's world, the need for schools to restructure to achieve this goal with students and the implications of this for assessment. With respect to the latter, the author proposes: portfolios containing all of a student's work; learning logs; teachers periodically reviewing portfolios to develop a collective sense of progress; evaluating work samples from all content areas; and teachers engaging in classroom research. The document discusses portfolios in general terms; it does not describe any particular portfolio system.

(TC# 060.6INSINQ)

National Center for Research on Evaluation, Standards, and Student Testing (CRESST). *Portfolio Assessment and High Technology*, 1992. Available from: CRESST, 405 Hilgard Ave., Los Angeles, CA 90024-1522.

CRESST has produced this 15-minute video as an overview of a high technology portfolio project in Stevens Creek Elementary School for grades 1-5. Students use Apple computers for essay writing and collect their work into portfolios for periodic self-reflection and review. The tape shows this project in action and also discusses reasons for alternative assessment approaches, how alternatives fit into the Stevens Creek project, and the importance of having good quality performance criteria to critique work samples.

(TC# 470.3PORASHv)

National Computer Systems. *NCS Abacus*. Available from: NCS Education, 11000 Prairie Lakes Dr., PO Box 9365, Minneapolis, MN 55440, (800) 447-3269, fax (612) 830-7979.

The Abacus software is an instructional management database that allows the user to:

- Store district learning goals for students (either district-specific goals or a package available from the publisher)
- Have an item bank of test questions keyed to district goals
- Assess student's mastery of goals and update individual student's mastery information through general tests
- Keep demonstration information on each student
- Keeps work samples (audio, visual, written, video)
- Cross reference instructional materials to goals
- Generate individual student, class, school, or district progress reports
- Summarize student's status and print out suggested instructional plans

Although this is a flexible system for storing information about students and generates various kinds of reports, a vision of assessment is not included. For example, the software allows scanning in samples of student work, but the user still must think through the purpose for such storage, how entries relate to district learning goals, how/whether entries will be scored, who chooses entries, etc.

(TC# 150.6NCSABA)

National Council of Teachers of English. *Portfolio Assessment: Will Misuse Kill a Good Idea?*, 1991. Located in: NCTE Council-Grams, May/June 1991, p. 1.

This short statement proposes that the main use of portfolios should be to help kids learn. Preempting them for large-scale assessment could easily destroy their instructional benefit if the large-scale design dictates content, has all the evaluation external to the teacher and students, and promotes the idea that teaching and learning needs to be controlled from above.

(TC# 400.6PORASW)

National Education Association. *Student Portfolios*, 1993. Available from: NEA Professional Library, PO Box 509, West Haven, CT 06516, (800) 229-4200.

This book contains papers from six teachers (grades K-12) who describe their portfolio activities. The book is very user-friendly and contains many good ideas for implementation.

(TC# 150.6STUPOR)

Oboyski-Butler, Kathy and Marni Schwartz. *Sharing the Job of Evaluation*. Located in: Language Arts 66, April 1989, pp. 407-413.

In this paper, a first-grade teacher and a sixth grade teacher have a dialogue about student self-reflection. They mostly talk about the things they did to promote meaningful self-reflection; to enable students to get inside themselves. They also mentioned questions that tend to elicit pat, non thinking answers. Lots of student examples are provided.

(TC# 400.6SHAJOE)

Pandy, Tej. *A Sampler of Mathematics Assessment*, 1991. Available from: California Department of Education, PO Box 944272, Sacramento, CA 94224, (916) 445-1260.

This sampler describes the types of assessment that the California Assessment Program (CAP) is proposing to support curricular reforms in math. Illustrated and discussed are open-ended problems, enhanced multiple-choice questions, investigations, and portfolios. These four types of activities are intended to measure mathematical understandings that students develop over a period of several years.

This monograph includes a definition of "mathematical power" (the ultimate goal of mathematics instruction), guidance in the characteristics of assessment tasks that will encourage and measure power, a few sample student responses to problems, and help with implementation of alternative assessment.

All performance-based techniques will use a six-point holistic scale. This scale is briefly described. The scale will be tailored for individual tasks.

(TC# 500.3SAMMAA)

Paris, Scott G. *Portfolio Assessment: Reflections on Learning*. Located in: Robert Smith and Deanna Birdyshaw (Eds.), Perspectives on Assessment, Volume 1, 1992, pp. 209-219. Available from: Michigan Reading Association, PO Box 7509, Grand Rapids, MI 49510.

This paper provides some good suggestions on how to proceed if one's primary purpose for assembling portfolios is assessment. The steps in designing such a portfolio are: decide what to assess, what items to gather to show progress, what levels of performance are acceptable, how to handle the portfolios, and how to interpret results for different audiences.

The author assisted grade K-5 teachers develop assessment portfolios in literacy using these steps. The paper lists the four student outcomes that teachers wanted to assess (constructive comprehension of text, use of appropriate writing processes and

conventions, knowledge about text features and literacy strategies, and personal feelings and motivation about literacy) and progress on the other steps. (The only step left to address is developing performance criteria.)

Although the portfolios began primarily to assess student progress, teachers were definitely using them also as instructional tools.

(TC# 400.3PORASR)

**Parr, Susan Resneck. *Lewis & Clark College New Admissions Initiatives*, 1990.
Available from: Office of the Vice President for Academic Affairs, Lewis & Clark College, 0615 SW Palatine Hill Rd., Portland, OR 97219, (503) 293-2653.**

Lewis & Clark College now offers two alternative options for admissions—portfolios and a Saturday Seminar. The portfolio option requires that students submit materials which demonstrate that they meet the college's criteria for admission. Suggestions are:

1. Products that demonstrate intellectual growth and an ability to write clearly and think critically. These could include, for example, a series of papers or tests that show growth; or science projects, mathematical proofs, computer programs, audio tapes of performances, etc. to show accomplishment of advanced skills.
2. An official high school transcript.
3. A letter from a high school counselor or principal certifying that the work is one's own.
4. Three sealed letters from recent teachers assessing one's academic abilities.
5. The first page of a standard admissions application.
6. Other pertinent information such as standardized test scores, additional recommendations from teachers and others, a statement of academic goals and interest, and an admissions essay.

The Saturday Seminar for Early Decision is designed for students certain they wish to become Lewis & Clark students. The program includes a weekend visit, participation in a seminar, an interview with an admissions counselor, an opportunity to talk to a financial service counselor, and invitations to social events. They also must submit either a regular admissions application or a portfolio.

In the materials we obtained there is no discussion of how portfolio or seminar performances would be assessed.

(TC# 000.6LEWANC)

Paulson, F. Leon and Pearl R. Paulson. *Setting the Stage for Self-Reflection, (Prepublication Draft)*, March 1993. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

The authors outline types of self-reflection and suggest that these occur when students make choices, compare, review, and present.

The authors also looked at 42 second-grade math portfolios to determine the frequency of the different types of self-reflection and the overall developmental status of the portfolios. The latter judgments were based on a four-point holistic scoring scheme, where "4" means "student tells coherent story of self as a learner" and "1" means "unorganized collections of work." They found all types of self-reflection in the portfolios, and the ability to self-reflect was not related to the overall quality of the portfolio.

The authors conclude by stating the position that self-reflection should be viewed as a process, not an outcome—that self-reflection itself should be a window on learning, but should not be scored in, and of, itself, and that the best way to develop self-reflection skills is just to let students do it—structured procedures (e.g., prompted writing, checklists, etc.) should only be used as scaffolding and removed as soon as possible.

(TC# 500.6SETSTS)

Paulson, Leon. *Portfolio Guidelines in Primary Math*, 1994. Available from: Multnomah Education Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

This monograph provides good assistance with math portfolios in the primary grades. The author believes that the most important purpose for mathematics portfolios is to prompt students to take control of their own learning. Therefore, the student should be in control of the portfolio. (The author, however, also points out that there might be other audiences and purposes for the portfolios that might have to be addressed.)

The author provides some ideas for tasks that students could do to generate material for the portfolio, provides some very practical suggestions for getting started, gives ideas for activities to encourage student self-reflection, and shows some draft holistic criteria for evaluating portfolios.

An example of the user-friendly way this monograph provides practical help is: "Remember, the portfolio is telling a story. Each item in a portfolio is there for a reason. It should not require a mind reader to figure out why it is there. A portfolio entry includes a piece of work plus information that makes its significance clear—the reason it was selected, the learning goals illustrated, student self-reflections, and (always!) the date."

A second-grade student portfolio is included. No technical information is included.

(TC# 500.6PORGUP2)

Paulson, Leon. *Student Self-Reflection in Primary Math Portfolios*, 1992. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

The author outlines three kinds of self-reflection in a math portfolio: single pieces (why selected, strengths/weaknesses, etc.), comparison of pieces, and the portfolio as a whole. He provides examples of the three kinds of self-reflection in the work of two second-grade students. The paper also includes some help with how to get started.

(TC# 500.6STUSER)

Paulson, Leon, and Pearl Paulson. *An Afternoon to Remember: A Portfolio Open House for Emotionally Disabled Students*, 1992. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

Reynolds School District adapted Crow Island's "portfolio night" (Hebert-TC#000.3PORINR) for use with severely emotionally disabled students. This paper describes how the afternoon was set up, what happened, student debriefing sessions, and changes in format based on student comments.

(TC# 340.6AFTREP)

Paulson, Leon, and Pearl Paulson. *Portfolios: A Perspective on Learning*, 1992. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

This is a 30-minute videotape which shows teachers reflecting on two second-grade student math portfolios and discussing topics such as: self-assessment, how to structure the portfolio process for less independent kids, and tips on how to get started.

(TC# 500.3PORPEL)

Paulson, Leon, and Pearl Paulson. *The Making of a Portfolio*, August 1992. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

The authors present their Cognitive Model for Assessing Portfolios (CMAP), a framework for designing a portfolio system. The framework has three dimensions—

stakeholders, activities, and history. Stakeholders can include students, teachers, parents, administrators, evaluators, etc. Since a portfolio is a purposeful collection of student work, this dimension answers the question "whose purpose?"

The activity dimension of the framework requires that the user describe the rationale for the portfolio, what questions the portfolio is to answer, what will be collected to answer these questions, and how the results will be interpreted. These things are likely to differ depending on the stakeholder.

The historical dimension of the framework requires that the user place the portfolio into a context in order to accurately interpret its significance. The context can include stakeholder characteristics at the outset (helps to explain why the portfolio has significance), instructional activities that occur during the process of assembling the portfolio (helps to explain why student learning is occurring), and outcomes (what will happen next as the result of doing the portfolio).

The authors contend that all of these factors must be taken into account when designing a portfolio system because what your system will look like depends on the stakeholders, what you want to show in the portfolio, antecedent conditions, etc. There is no simple answer to the question "What should go into a portfolio?"

(TC# 150.6MAKOFA)

Paulson, Leon, Pearl Paulson, and Carol Meyer. *What Makes A Portfolio A Portfolio?* Located in: Educational Leadership, February 1991, pp. 60-63. Also available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

This brief article outlines the authors' perceptions of the characteristics that make the notion of portfolio assessment powerful. These characteristics are illustrated by samples from actual student portfolios. The eight characteristics are:

1. A portfolio must contain information that shows that a student has engaged in self-reflection.
2. Students must be involved in the selection of the pieces to be included.
3. The portfolio is separate and different from the student's cumulative folder.
4. The portfolio must explicitly or implicitly convey the student's activities.
5. The portfolio may serve a different purpose during the year from the purpose it serves at the end. At the end of the year, however, the portfolio may contain only materials that the student is willing to make "public."
6. A portfolio may have multiple purposes.

7. The portfolio could contain information that illustrates growth.
8. The skills and techniques that are involved in producing effective portfolios do not happen by themselves. Students need models of portfolios and how others develop and reflect upon them.

(TC# 150.6WHAMAA)

Paulson, Pearl R. *The Feasibility of Asking Young Children to Reflect on Their Own Learning*, 1993. Available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.

This article comes from a study in progress by Pearl Paulson in collaboration with Leon Paulson and Clarice Keizer. It is a short paper that provides examples of kindergarten students' self-reflection.

(TC# 070.6FEAASY)

Paulson, Pearl R. *Portfolios: Looking for the Learner*, 1992. Available from: Beaverton School District, PO Box 200, Beaverton, OR 97075, (503) 591-8000, fax: (503) 591-4415.

This is the transcript of a keynote address that attempts to articulate the primary purpose of portfolios as instructional tools that can also be used for assessment at various levels—student self-assessment, as well as teacher and large-scale assessment. The paper describes how the need for information and standards from those outside the classroom does not *necessarily* have to stifle the instructional value. Outside information needs can actually enhance the instructional value if students themselves are the ones selecting evidence of attainment of standards articulated by others. (But these are not necessarily the only stakeholders, nor the only standards.)

Also included is a four-point holistic guide for evaluating the portfolio. This scale is based on evidence that the student is a self-directed learner.

(TC# 150.6PORLOF)

Paulson, Pearl, and Leon Paulson. *Portfolios: Stories of Knowing*, 1991. Located in: **P. H. Dreyer (Ed.), Claremont Reading Conference 55th Yearbook 1991. Knowing: The Power of Stories**. Available from: **Center for Developmental Studies of the Claremont Graduate School, Claremont, CA. Also available from: Multnomah Educational Service District, PO Box 301039, Portland, OR 97230, (503) 257-1774.**

This article discusses portfolios as stories. The purpose of a portfolio is communication; the items chosen for the portfolio are those that best tell the story. The paper takes the position that these stories should be mostly "autobiographical"—students themselves are the authors, telling their stories of achievement, development, and accomplishment by purposefully choosing samples of work and describing why they were chosen.

(TC# 150.6PORSTO)

Pokay, Patricia A. and Carla Tayeh. *The Effect of Portfolio Use on Mathematics Attitudes and Learning Strategies*, 1994. Available from: **Eastern Michigan University, Ypsilanti, MI 48197.**

Paper presented at the 1994 Annual Meeting of the American Educational Research Association in New Orleans, LA. The authors examined the effect of student portfolios on the math self-concept, math motivation, and use of mathematical learning strategies of pre-service elementary teachers. Portions of the opinion surveys are attached.

(TC# 500.3EFFPOU)

Polakowski, Cheryl. *Literacy Portfolios—In the Early Childhood Classroom*. Located in: **Student Portfolios, 1993, pp. 47-65.** Available from: **National Education Association (NEA) Professional Library, PO Box 509, West Haven, CT 06516, (800) 229-4200.**

The author provides some useful ideas for early childhood education literacy portfolios. The author presents the list of items the teachers at her school decided would go into student portfolios, and back-up materials for each. For example, student and parent literacy interview forms are included, as is a developmental continuum in literacy to track student progress, procedures for doing a story retell to assess comprehension and help with doing miscue analysis.

The author also has useful advice on introducing portfolios to parents and how to manage the portfolio in the classroom. On the latter topic, the author emphasizes the

need to have a child-centered classroom and student independence so that the teacher can work with small groups.

(TC# 440.3LITPOE)

Preece, Alison. *Self-Evaluation: Making It Matter*. Available from: Faculty of Education, University of Victoria, Box 3010, Victoria, BC V8W 3N4, (604) 592-8856.

This document has been submitted for inclusion in Arthur L. Costa and Benna Kallick (Eds.), Systems Thinking for Learning Organizations: Shifting the Assessment Paradigm, to be published by the Association for Supervision and Curriculum Development.

The author discusses the importance of, and how to promote, self-reflection and self-evaluation in students. The author stresses the need to move beyond trivial self-reflection and offers eight suggestions, including (1) making it a part of daily activity (rather than a separate event) and (2) helping students articulate the criteria for success.

(TC# 000.6SELMAM)

Price, Karen. *Developing a "Portfolio Culture" in the Artroom Under Various Classroom Conditions*, undated. Available from: Project Zero, Harvard Graduate School of Education, 323 Longfellow Hall, 13 Appian Wy., Cambridge, MA 02138.

This paper was written by a classroom teacher participating in the Arts PROPEL project. It focuses on help with implementation of portfolios in individual classrooms, and contains:

- A definition of "portfolio culture"—"A portfolio culture creates an atmosphere in the classroom in which students view themselves as novice artists working on long-term projects similar to those that all artists grapple with."
- What goes into a portfolio—all drafts, written reflections, all finished work, and journals/sketchbooks.
- How to use portfolios in the classroom—daily, ongoing self-reflection and more formal periodic and long term self-reflection.
- Suggestions for some exercises to prompt students to self-reflect.
- Suggestions for large class sizes.

(TC# 810.6DEVAPO)

Pritchard, Diane. *Student Portfolios—Are They Worth the Trouble?*, 1992. Available from: Sisters Middle School, PO Box 555, Sisters, OR 97759, (503) 549-8521.

This paper was written by a middle school math and English teacher. It provides practical help with how to set up a portfolio system in math by describing her purpose for having a portfolio, the types of activities included, and activities to get students to self-reflect (including an idea for tests).

(TC# 500.3STUPOT)

Project PULSE. *Laptop Computers for Students and Teachers.* Located in: News from the Center for Children and Technology and the Center for Technology in Education 2, May 1993, pp. 1-6. Also available from: CCT/CTE, Bank Street College of Education, 610 W. 112th St., New York, NY 10025, (212) 678-1654 or (800) 724-1486, fax (212) 316-7026.

This article is not really about portfolios, but contains information on technology that might support portfolios. Specifically described is a two-year project to supply every eighth grade student with a laptop computer for school and personal use. The computer was supplied with software for word processing, data analysis, and bulletin board access.

(TC# 600.6PULSE)

Rabinowitz, Stanley. *Career-Technical Assessment Program (C-TAP)*, 1994. Available from: Far West Laboratory, 730 Harrison St., San Francisco, CA 94107, (415) 241-2711, fax (415) 241-2702.

The purpose of C-TAP is to design a performance-based student assessment and certification system for career-technical education programs offered in California high schools, adult education programs, and regional occupational centers/programs. C-TAP assesses students' preparedness for entry-level jobs and post-secondary training, using two components: cumulative and on-demand. The cumulative assessments include a portfolio, an assessment project, and a supervised practical experience. The on-demand assessments include a project presentation and written scenarios.

The portfolio contains (1) an introduction, (2) a career development package, (3) work samples, (4) a writing sample, and (5) a completed supervised practical experience (SPE) evaluation form. The career development package consists of a resume, an employment or college application, and a letter of recommendation. The work samples demonstrate hands-on-mastery of important program skills and may be represented by actual products, photographs, videotapes, or written descriptions. To support integrated learning, work samples connect to other C-TAP components such as the assessment project or SPE. The writing sample focuses on a topic relevant to the student's program area.

Students are also required to complete an assessment project (mastery exhibit) during the course of their program. Students must plan, develop, and evaluate a major product related to their career interests. Project ideas are developed jointly by the student and teacher according to specific models provided for each occupational cluster. At the conclusion of the project, all students describe their learning experiences in an oral presentation.

This document includes student and teacher guidebooks that detail and illustrate possible portfolio entries and evaluation criteria. No technical information is included.

(TC# 223.3CARTEA2)

Rief, Linda. *Finding the Value in Evaluation: Self-Assessment in a Middle School Classroom.* Located in: Educational Leadership, March 1990, pp. 24-29.

This article presents a case study to illustrate why and how students should/can choose their own topics and genres for reading and writing; and how promoting self-evaluation can add depth and meaning to learning. No grade level is given, but it seems to be upper elementary.

The author requires students to read at least 30 minutes a day and produce at least five rough draft pages of writing a week. Periodically, the students are asked to rank their work from most effective to least effective and to evaluate it by considering the following questions:

1. What makes this your best piece?
2. How did you go about writing it?
3. What problems did you encounter? How did you solve them?
4. What makes your most effective piece different from your least effective piece?
5. What goals did you set for yourself? How well did you accomplish them?
6. What are your goals for the next 12 weeks?

The author also describes classroom conditions necessary to make the process work.

(TC# 470.3FINTHV)

Rousculp, Edwin E., and Gerald H. Maring. *Portfolios for a Community of Learners*. Located in Journal of Reading 35, 1992, pp. 378-385. Also available from: Washington State University, Department of Elementary and Secondary Education, Pullman, WA 99164.

The authors describe a course for teacher candidates that attempts to model the procedures that teachers are being taught to use in their own future classrooms. Specifically, the course attempts to develop a community of learners by requiring students to access the instructional research in their field to develop strategies for teaching various concepts, adapt the strategy to a particular situation (self-chosen), get peer review of plans, revise the strategy in light of the review, and add a biography of the work (steps in developing the strategy, thinking involved, etc.).

Students were required to develop 12 strategies for the term. Three (with all supporting materials and steps) were submitted in a portfolio for grading.

The authors also examined the portfolios for evidence of metacognition, use of prior knowledge, writing to learn, peer responses, cognitive engagement, enthusiasm, and intertextuality (using one text to help understand another). Sample student statements from the portfolio are included to illustrate each concept.

(TC# 000.3PORFOC)

Ryan, Joseph M., and Therese M. Kuhs. *Assessment of Preservice Teachers and the Use of Portfolios*. Located in: Theory into Practice 32, Spring 1993, pp. 75-81. Available from: College of Education, The Ohio State University.

In this article the authors describe the rationale for using portfolios as one piece of information to assess pre-service teachers. They also discuss (1) the domains of knowledge and performance that portfolios can be used to assess (knowledge of subject matter, problem solving, pedagogical skills, knowledge about learners and learning, attitudes); and (2) critical features of an assessment system for pre-service teachers that are fulfilled by portfolios (flexibility, use of information from a variety of sources, longitudinal collection of information, and integration of information from a variety of sources).

No specific portfolio system is described, no technical information is included and no samples of teachers' work are included.

(TC# 130.4ASSPRT)

Sack, Mike. *Portfolio Assessment*, 1991. Available from: Urban Corps Expansion Project, Public/Private Ventures, 399 Market St., Philadelphia, PA 19106, (800) 727-8900.

Portfolio Assessment is a working draft of guidelines for the preparation of two kinds of portfolios by clients: a development portfolio and an interview portfolio. The paper notes that each purpose addresses a different audience and requires a different portfolio.

The development portfolio is for the student's own use to track progress. A large variety of things could be put in such a portfolio. (The paper provides a long list). The interview portfolio demonstrates a student's academic and employment skills for the purpose of obtaining a job or gaining admission (or credit) to an educational institution. This type should contain examples of best work. (Again, a list of suggestions is provided.)

The paper notes that part of the portfolio process is to develop criteria for judging the entries as evidence of progress. However, these criteria are left up to conferencing between the client and a staff member.

(TC# 150.6PORAST)

Salinger, Terry. *Classroom-Based and Portfolio Assessment for Elementary Grades*. Located in: Hedley, Carolyn, Dorothy Feldman, and Patricia Antonacci (Eds.), *Literacy Across the Curriculum*, 1992, pp. 133-155. Available from: Ablex Publishing Corporation, 355 Chestnut St., Norwood, NJ 07648.

This paper discusses the current state of assessment and makes two suggestions for its improvement: taking advantage of the assessment opportunities within classroom instruction interactions, and using portfolios to assess literacy growth. Of special interest:

- A list of 14 questions that must be addressed when planning alternative assessments
- Examples of classroom opportunities for observing students
- A discussion of the necessity for clear criteria for success and for clearly communicating criteria to students
- A rubric for assessing literacy portfolios. Included are writing, reading and content area knowledge (six levels of achievement are specified)
- Other ways to assess portfolios in addition to using rubrics—more open-ended examinations and posing individual questions

- Ideas for grading using portfolios

(TC# 400.6CLABAP)

Scardamalia, Marlene, and Carl Bereiter. *Child as Coinvestigator: Helping Children Gain Insight Into Their Own Mental Processes.* Located in: S.G. Paris, G.M. Olson & H.W. Stevenson (Eds), Learning and Motivation in the Classroom, 1983, pp. 61-82. Available from: Lawrence Earlbaum Associates, Inc., 365 Broadway, Hillsdale, NJ 07642, (201) 666-4110.

The main purpose of having this paper in the bibliography is to help define metacognition. The paper provides a variety of ideas on how to help students become more aware of their mental processes. The purpose is not to enable people to develop a "course" in metacognition, but rather to design regular activities to help bring mental processes out into the open.

The topic of metacognition is important when discussing portfolios because many individuals feel that the process of self-reflection is integral to assembling portfolios. Additionally, taxonomies of metacognitive skills may be useful to develop criteria for assessing the self-reflections of students.

(TC# 050.5CHIASC)

Scherban-Sierra, Pamela. *Portfolios and Their Use in a Reading Course.* Available from: School of Education, California Lutheran University, 60 Olsen Rd., Thousand Oaks, CA 91360.

This document is a series of papers from different perspectives on the use of portfolios for teacher candidates at California Lutheran University. It constituted a symposium at the Annual Conference of the California Educational Research Association, November 18-19, 1993, Long Beach, CA. The document consists of:

- An outline of the required content of the portfolio
- A statement by an employer of the usefulness of the portfolio in making hiring decisions
- Examples of portfolio use in the reading/language arts methods, technical and measurement classes

(TC# 130.3PORTHB)

Schuman, Steve, and Sondra Maier. *Self-Reflection Skills and Forms*, 1991.

Available from: Federal Way School District, 31405 18th St. S., Federal Way, WA 98003, (206) 941-0100.

This package consists of ideas for prompting students to self-reflect as part of the portfolio process. Open-ended ideas include statement and question prompts for the student to complete such as: "What I want to do by using the portfolio" and "My work is like or different from the standard in the following ways." There are also a series of structured checklists. For example "Put a check in the box next to the 10 words which best describe how you feel when working on your portfolio" and "The reasons I have picked this as an example of my work is..." (this is followed by a list of things to choose from). In a personal communication, the authors described some studies that are being done to see how the various formats work and how responses differ between students.

It may be the case that students with different learning styles might respond better to one format than another. The point is not the format used, but that whatever we do nudges the student in a positive direction.

(TC# 000.3SELRES)

Schwartz, Jeffrey. *Let Them Assess Their Own Learning*. Located in: English Journal, February 1991, pp. 67-73.

This paper focuses on high school student self-assessment in reading and writing. The author believes that students take more control of their learning when they share in assessment. The paper provides good ideas on how to create an environment that encourages student self-reflection among students who have never before engaged in self-assessment.

(TC# 470.6LETTHA)

Serrano, Claudia. *A Look at Portfolio Assessment in San Diego High School's Sophomore House*, 1991. Available from: San Diego City Schools, 4100 Normal St., Room 3133, San Diego, CA 92103, (619) 298-8120.

This paper describes an interdisciplinary (physics, math, and English) portfolio system for tenth graders that supports block scheduling in an inner city magnet school. Students keep a notebook of all work in each class. Class portfolios are developed from selected work in the notebook. Class portfolios are used as the basis for the culminating "House Portfolio" in which students select work to demonstrate that they have attained specified learning goals. The "House Portfolio" also includes written reflection and a final exhibition of mastery.

The document includes student instructions for assembling the portfolio, an entire student portfolio, instructions for a formative oral presentation of their portfolio, checklists and evaluation forms, and assistance with reflective writings and exit exhibitions.

No technical information is included.

(TC# 000.3LOOPOA)

Shiver, Karen Jones. *Internet Discussion Group.* Located at: Alief ISD, Houston, TX.

Karen Jones Shiver coordinates an Internet discussion group on portfolios (see also "Electronic Resources" at the end of this section). Her e-mail address is: kjshiver@tenet.edu

This document includes some of the teacher contributions to this discussion. Included are:

- A grade 1-3 teacher's suggestions for getting started with portfolios
- Two primary teachers' experiences with student-led parent conferences

A high school teacher's description of music portfolios

(TC# 000.6INTPOD)

Short, Kathy G. and Gloria Kauffman. *Hearing Students' Voices: The Role of Reflection in Learning.* Located in: Teachers Networking—The Whole Language Newsletter 11 (3), Spring/Summer 1992, pp. 1-6.

This is a very practical article written by two elementary teachers. They discuss (1) ideas for establishing a reflective environment in the classroom; and (2) portfolios that encourage students to define their own progress as learning. "Most educators begin the portfolio process by suggesting that teachers list the desired learning outcomes and then work with students to create portfolios to provide evidence of those outcomes. Because we wanted the portfolios to reflect what students saw as their learning outcomes rather than ours, we decided to explore a different kind of portfolio that would highlight the children's perspective." The authors wanted others to know what children thought about their own learning rather than asking students to reflect on their progress on the skills that adults value.

(TC# 400.3HEASTV)

Shulman, Lee. *What Makes A Good Teacher?* Located in: Teacher Magazine, November 1989, pp. 35-36.

This article describes an innovative teacher evaluation project at Stanford University involving both teacher portfolios and teacher assessment centers. The assessment centers required teachers to deliver a lecture, plan a lesson with colleagues, and perform other tasks related to their subject area of expertise.

In the portfolio part of the assessment, teachers were asked to compile samples of their work that they thought reflected their best teaching—lesson plans, videotapes and samples of student work. The portfolio included self-reflection. It is unclear from the article how these portfolios were evaluated for quality; however, the author did mention that they allow for differences in style. One drawback of the system is that it is time-consuming and most of the

teachers in the project did their portfolios on their own time. The author feels that this type of self-reflection should be built into the regular work-day.

(TC# 130.4WHAMAA)

Simmons, Jay. *Portfolios For Large-Scale Assessment*. Located in: Donald Graves and Connie Sunstein (Eds.), Portfolio Portraits, 1992. Available from: Heinemann Educational Books Inc., 361 Hanover St., Portsmouth, NH 03801, (603) 431-7894.

This chapter discusses one example of the use of writing portfolios for large-scale assessment. It reports on a study of 263 portfolios in grades 5, 8 and 11. Students selected what they considered to be their three best pieces of writing and completed a cover sheet for each piece that indicated reasons why the paper shows quality writing, when the paper was begun and finished, the amount of time spent on it, and its length. Students also submitted a timed writing sample on an assigned prompt. All samples were scored using a holistic system. Additional analyses were carried out such as: comparing student perceptions of their strengths to scorer perceptions of strengths, comparing the timed piece to the others, comparing writing time to quality of products, etc.

The author discovered that it is possible to obtain interesting information about products (the quality of student work), process (the way in which students go about writing), and programs (the way that writing is taught) from these analyses. For example: the longer students spent on their pieces, the better they were; students generally chose narratives as examples of their best writing; students who score low on timed writing samples look much better on their portfolio work; portfolio pieces were often included with substantial teacher comments left unaddressed; etc

(TC# 470.3PORLAA)

Simmons, Warren, and Lauren Resnick. *Assessment as the Catalyst of School Reform.* Located in: Educational Leadership, February 1993, pp. 11-15.

The authors provide a good overview of the New Standards Project, a consortium of 17 states and a half-dozen school districts which are working together to design and implement a system of performance standards, authentic assessments, and professional development intended to change the way the American school system works. The authors discuss: content standards vs. performance standards, their plans for using portfolios, who is participating, and other current activities.

The heart of the assessment system being developed is portfolios. These portfolios will contain three kinds of work: work chosen by the district, school, teacher, and/or student; prescribed projects and other extended learning activities; and responses generated by on-demand performance assessments. The on-demand performance assessments will be in math, language arts and science in grades 4, 8, and 10. Criteria are tied to tasks.

One sample performance task is provided. No detailed specifics on the portfolio system are included.

(TC# 150.6ASSCAS)

Spandel, Vicki, and Ruth Culham. *In the Classroom—Putting Portfolio Stories to Work*, 1994. Available from: IOX, 5301 Beethoven St., Suite 109, Los Angeles, CA 90066, (310) 822-3275, fax (310) 822-0269.

This new video program covers four types of portfolios, emphasizing the importance of having a clear purpose and encouraging student self-reflection. Featuring video footage from real classrooms, this program shows students working with portfolios at different grade levels and in different learning contexts.

(TC# 150.6INCLSG02—guide)

(TC# 150.6INCLST02—text)

(TC# 150.6INCLSV02—video)

Stahle, Debra L., and Judith P. Mitchell. *Portfolio Assessment in College Methods Courses: Practicing What We Preach.* Located in: Journal of Reading 36, April 1993, pp. 538-542.

This article is by two university teachers who are trying to model appropriate literacy instruction and assessment in their own reading and language arts methods courses. Their discussion of issues, procedures and constraints regarding portfolios directly

parallels those of teachers in grades K-12, e.g., the felt need for teacher control so that grades can be assigned.

(TC# 130.3PORASC)

Stenmark, Jean. *Mathematics Assessment: Myths, Models, Good Questions, and Practical Suggestions*, 1991. Available from: National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 22091, (800) 235-7566.

This monograph was designed for teachers in the elementary grades. It is a collection of examples of math assessment techniques that focus on student thinking. Topics include the rationale for new ways of assessing mathematics, the necessity of integrating assessment and instruction, designing performance assessments (most emphasis is on designing the task, although sample holistic and analytical trait scoring systems are shown), what to look for during classroom observations and interactions (including questions to ask to get at various types of thinking), portfolios (including types of items to include, the types of information they can demonstrate about students, and criteria for evaluation), student self-assessment, and hints to make assessment work in the classroom.

(TC# 500.3MATASM)

Sugarman, Jay. *Teacher Portfolios Inform Assessment*. Located in: The American Educator, May 1989, 5-6. Also located in: Harvard Education Letter 5, 1989, pp. 5-6.

This article briefly describes a research project designed to examine the extent to which a teacher portfolio can contribute to a richer, more contextual assessment of teaching. There is a brief description of the project and quotes from participating teachers.

(TC# 130.4TEAPOI)

Swicegood, Philip, *Portfolio-Based Assessment Practices*. Located in: Intervention in School and Clinic 30, September 1994, pp. 6-15.

The author describes three years of work on using portfolios with special needs students. The paper covers:

- The rationale for using portfolios with special needs students
- Four categories of information about students that could be included (behavior, academic growth, process skills, and cultural factors)
- Linking IEP's with portfolios

The process, as described, is very teacher-centered.

No sample student work or technical information is included.

(TC# 150.6PORBAA)

Teacher Assessment Project. *Biology Examiner's Assessment Center Handbook*, May 1989. Available from: Stanford University, School of Education, CERAS 507, Stanford, CA 94305, (415) 725-1228.

The goals of the Assessment Center in biology are to develop performance exercises that assess knowledge, skills and dispositions as a teacher of biology. This handbook was designed to introduce teachers to Assessment Center exercises. There are three types of exercises: extensions of portfolio information gathered previously, performance of tasks using the information in the portfolio entry as a starting point, and stand-alone exercises that do not use portfolio entries. The tasks involve interviews, written answers and computer responses.

The individual exercises involve reviewing unit plans, discussing student evaluation, monitoring student laboratory work, analyzing alternative instructional materials, reviewing a videotape of an instructional situation, adapting a textbook chapter to one's needs, using the computer as an instructional tool, and discussing a teaching problem. The handbook describes these exercises and how performance will be evaluated.

(TC# 130.4BIOEXA)

Teacher Assessment Project. *Elementary Literacy Assessment Center Examiner's Handbook*, 1989. Available from: Stanford University, School of Education, CERAS 507, Stanford, CA 94305, (415) 725-1228.

The goals of the Assessment Center are to develop performance exercises to assess a teacher candidate's knowledge, skills and dispositions as a Board certifiable teacher of elementary literacy. This document is the manual used to train evaluators who rated teacher performances during the field test of Literacy Assessment Center exercises.

The manual describes six performance-type exercises related to three strands: assessment of students, integrated language arts instruction, and creating a literate environment. Some of the exercises draw on literacy portfolios previously developed by the teacher candidates. Others are stand alone exercises that simulate teaching situations and are independent of the portfolio entries.

Descriptions of the exercises and rating forms used to judge performance are provided.

(TC# 130.4ELELTA)

Teacher Assessment Project. *Portfolio Development Handbook for Teachers of Elementary Literacy*, 1988. Available from: Stanford University, School of Education, CERAS 507, Stanford, CA 94305, (415) 725-1228.

This document is the handbook for grade 3 and 4 teachers to use in developing their own literacy portfolios in reading comprehension and composition. For this purpose, a portfolio is defined as a collection of documents that provide evidence of the knowledge, skills and dispositions of an elementary teacher of literacy. Specifications for portfolio entries include four items that relate to integrated language instruction, three that relate to creating a literate environment, and four about assessment of students. Teachers may also present an open entry and a reflective interpretation of any and all entries. The handbook provides guidance on what these entries should be like and how to choose them.

(TC# 130.4PORDEH)

Teacher Assessment Project. *The School Teacher's Portfolio: Practical Issues in Design, Implementation and Evaluation*, 1988. Available from: Stanford University, School of Education, CERAS 507, Stanford, CA 94305, (415) 725-1228.

In addition to providing a summary of the Teacher Assessment Project, this paper discusses many of the practical issues that were considered in designing, implementing and evaluating the schoolteacher's portfolio.

(TC# 130.6SCHTEP)

Teacher Assessment Project. *Thinking Out Loud: Proceedings of the Teacher Assessment Project Forum on Equity in Teacher Assessment*. May 1988. Available from: Stanford University, School of Education, CERAS 507, Stanford, California 94395, (415) 725-1228.

This paper presents the reactions of seven educators to the work-in-progress of the Teacher Assessment Project.

(TC# 130.6THIOUL)

Thompson, Edgar. *Self-Assessment and The Mastery Of Writing*. Located in: Testing in The English Language Arts, Michigan Council of Teachers of English, PO Box 892, Rochester, MI 48063, 1985, pp. 55-60.

This article lists six self-reflective and evaluative questions that the author requires students to address for each paper they write. These cover self-reflection on the writing process, peer input and responses, strengths and weaknesses of the paper, what the student wants the teacher to look for in the paper, and what grade the paper should get. The questions, examples of their use, and samples of student work are provided in the article. Grade level is not specified, but it appears to be appropriate for intermediate grades and above.

(TC# 470.3SELASA)

Thompson, Linda. *Portfolio Model*, 1994. Available from: Linda Thompson, Chief Moses Junior High School, 2215 Westshore Dr., Moses Lake, WA 98837, (509) 766-2661.

The author is experimenting with the use of portfolios in her seventh grade math classes. Students are asked to include in their portfolio at least one entry for each of: mathematics as problem solving, mathematics as communication, mathematics as reasoning, mathematics connections, estimation, number sense and numeration, concepts of whole number operations, whole number computation, geometry and spatial sense, measurement, statistics/probability, fractions and decimals, patterns and functions. A single entry might serve to illustrate more than one skill. Thus, the portfolio is designed to align with the NCTM standards.

The packet of materials includes the direction sheets for students, two sample cover sheets that could be used for each portfolio entry, a self/peer rating sheet for group cooperation, a list of required content for a parent conference portfolio, and the student version of a scoring guide for individual portfolio entries. The latter scoring guide is holistic and uses a four point scale. "4" is: "This response provides proof that you really understand the mathematical concepts you are demonstrating. You have communicated your understanding so well there is no question that you have mastered the ideas being explored." Thus, students appear to be scored only on group cooperation, conceptual understanding, and communication; the packet contains no scoring guides for other areas such as problem solving, reasoning or connections.

The packet also does not include technical information nor sample student work. The author has given permission for educators to copy the materials for their own use.

(TC# 500.3PORMOD)

Thomson, Peter. *The School of Hard Knocks: A Study on the Assessment of Experiential Learning, Summary Report, 1988.* Available from: TAFE National Centre for Research and Development, Payneham, Australia. Also available from: Nelson Wadsworth, PO Box 4725, Melbourne, Victoria 3001, Australia, and ERIC ED 295 033. For full report see ERIC CE 050 244.

This article describes a process for assessing adult learners' life experiences for the purpose of granting them exemptions from formal course work. Applicants are assessed using portfolios, structured interviews, and on-the-job ratings. The first two are rated by a three-person panel with expertise in the area to be assessed and training in how to assess the portfolios and interviews.

The portfolio contains an autobiographical narrative, a statement on special competencies, assignments set by a tutor, work samples, testimonials, and references. These are assessed by checking the relevance of competencies claimed against course outcomes and objectives. The interview is structured and is assessed by using a checklist.

If provisional exemption from coursework is granted by the assessment panel, assessment of performance continues on the job in a variety of ways, depending on the area. These could include logs, supervisor ratings, oral tests, etc. Exemption is finalized on the basis of successful progress through all the above stages. The summary document does not contain the actual checklists used to assess the portfolio.

(TC# 150.6THESCO)

Tierney, Robert J., Mark A. Carter, and Laura E. Desai. *Portfolio Assessment in the Reading-Writing Classroom, 1991.* Available from: Christopher Gordon, Publishers, Inc., 480 Washington St., Norwood, MA 02062, (617) 762-5577.

This book was designed for classroom teachers, and the information is presented in a very user-friendly style and format. The authors discuss issues surrounding assessment and portfolios, provide many examples of portfolios systems, explore the ways that portfolios can be used instructionally, and show examples of criteria for assessing portfolio entries, portfolios as a whole, and metacognitive letters.

(TC# 400.6PORASC)

Unanue, Ginny. *Portfolio Assessment—An Old Technique, 1991.* Available from: Magnolia School, Carlsbad School District, 801 Pine Ave., Carlsbad, CA 92008.

This document describes one teacher's experience with portfolios. She provides ideas and suggestions in the following areas:

- The necessity to annotate every entry in the portfolio, and how to do it
- How to keep parents aware of student work while still keeping work in the portfolios
- The types of things that could be put in a portfolio
- Writing abilities to be expected at various grade levels (1-6)
- Criteria for assessing handwriting, response to literature, and narrative writing (tall tale)

(TC# 400.6CARPOA)

Valencia, Sheila. *A Portfolio Approach To Classroom Reading Assessment: The Whys, Whats and Hows.* Located in: The Reading Teacher, January 1990, pp. 338-340.

In addition to discussing the rationale for using portfolios to assess reading, this article also suggests content for reading portfolios, how to select material for a portfolio and how the portfolio should be organized.

Portfolio content might include samples of the student's work, the teacher's observational notes, the student's own periodic self-evaluation, and progress notes contributed by the student and teacher collaboratively. Specific items to be included would depend on the purpose for the portfolio but might include such things as written responses to reading, reading logs, selected daily work, classroom tests, checklists, unit projects, audio tapes, etc. The idea is to have a variety of indicators.

The real value of portfolios, according to the author, lies not in any single approach, but rather in the mind set that 1) sound assessment is anchored in authenticity; 2) assessment must be a continuous process; 3) valid reading assessment must be multi-dimensional; and 4) assessment must provide for active collaborative reflection by both teacher and student.

(TC# 440.6APORAP)

Valencia, Sheila. *Portfolios: Panacea or Pandora's Box?.* Located in: **Fredrick Finch (Ed.)** Educational Performance Assessment, 1991, pp. 33-46. Available from: **Riverside Publishing Company, 8420 Bryn Mawr Ave., Chicago, IL 60631, (800) 323-9540.**

In this paper the author reviews the rationale for portfolios and discusses the current state-of-the-art. Cautions include the need to have a clear purpose for the portfolio, the need to have performance criteria to judge portfolio quality, the need to attend to

technical quality when using portfolios for assessment, feasibility, and the need for staff development.

(TC# 150.6PORPAP)

Valencia, Sheila W., and Robert Calfee. *The Development and Use of Literacy Portfolios for Students, Classes, and Teachers.* Located in: Applied Measurement in Education 4, 1991, pp. 333-345.

After discussing definitions and some practical and technical issues surrounding portfolios, the authors briefly describe a "classroom portfolio" designed to demonstrate to the school board the achievement of third graders as a group. This is an example of a "composite portfolio" in which work from more than one student is included in order to tell the story of group achievement.

(TC# 400.3DEVUSL)

Valencia, Sheila, William McGinley, and P. David Pearson. *Assessing Reading and Writing: Building a More Complete Picture*, 1989. Available from: University of Washington, Seattle, WA 98195.

The author describes a procedure for developing student portfolios of work in the areas of reading and writing. She advocates collection of responses to a number of tasks that vary along the dimensions of focus (mechanics v. how well something achieved its purpose); structure (structured or naturalistic); locus of control (student self-assessment v. teacher assessment), and intrusiveness. Collecting a variety of outputs for various purposes in various task settings enables one to get a broad picture of achievement. However, the author warns that the content of the portfolio has to be planned so that not everything is included. She recommends three types of content—required (everyone collects the same things in the same way); semi-required (certain types of things are required, but exactly what is kept is up to the teacher and student); and open-ended (the teacher and/or student select any work that they feel exemplifies the student's achievement). The paper is descriptive; no samples of student work are included.

(TC# 400.3ASSREA)

Valeri-Gold, Maria Olson, James Olson, et al. *Portfolios: Collaborative Authentic Assessment Opportunities for College Developmental Learners.* Located in: Journal of Reading 35, December 91/January 92, pp. 298-305.

The authors provide the rationale for and a brief description of the literacy portfolios they are experimenting with for developmental college students. The portfolio is based on the notion that there should be four types of information included:

attitude/awareness, process/metacognition, products, and evaluation/feedback. The process is very open-ended and no criteria are described.

(TC# 440.6PORCOA)

Vavrus, Linda. *Put Portfolios To the Test.* Located in: Instructor, August 1990, pp. 48-53.

This paper is designed to be an introduction to the use of portfolios. The author defines a portfolio as a "systematic and organized collection of evidence used by the teacher and student to monitor growth of the student's knowledge, skills, and attitudes in a specific subject area." There is a brief discussion of the following topics: What will it look like? What goes in? How and when to start? Evaluating portfolios; and Passing Portfolios On. While there are a few concrete examples, most of the article is a list of questions that must be addressed when setting up a portfolio system.

The paper also includes a short interview with Grant Wiggins. His definition of a portfolio appears to include the requirement that portfolios represent students' best work.

(TC# 150.6PUTPOT)

Vermont Department of Education. *Looking Beyond "The Answer": The Report of Vermont's Mathematics Portfolio Assessment Program, 1991.* Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05620, (802) 828-3135.

This is the report of the pilot year of Vermont's grade 4 and 8 mathematics portfolio system used for large-scale assessment. The report contains information on the rationale for the portfolio approach, a description of what students were to include, a description of the criteria used to evaluate the portfolios (with sample student performances to illustrate the scoring scale), the scoring and training process, results, and what was learned about large-scale assessment using portfolios.

The parts of the assessment included assessing students' "best piece" and assessing the portfolio as a whole. In the next assessment, a multiple-choice test will be added to measure concepts and procedures.

The criteria actually used to evaluate the portfolios were modified from those described in the preliminary working documents (see 500.3VERMAP). For "best piece," criteria addressed problem solving and communication. For the portfolio as a whole, criteria covered instructional opportunities, math concepts, and dispositions.

Two interesting results were:

- They did not formally score portfolios for dispositions this year; they just gathered statements from student work that might help in developing a scale for future assessments. (Several of these statements are included in the report.)
- Only 58% of the portfolios in grade 8 and 83% in grade 4 were scorable; that is, a large proportion of the entries (at least in grade 8) did not have enough "text" to score (they contained such things as drill sheets and multiple-choice problems). They hypothesize that this was due to the generality of the guidelines for specifying what was to be included in the portfolio.

(TC# 500.3REPOFV)

Vermont Department of Education. *"This Is My Best": The Report of Vermont's Writing Assessment Program*, 1991. Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05620, (802) 828-3135.

This report describes the results of the pilot year of the Vermont Writing Portfolio used for large-scale statewide assessment in grades 4 and 8. (The portfolio itself is also described in 470.3VERWRA2.) The report includes information about:

- The criteria used to assess the entries in the portfolio (a five-trait analytical model)
- An outline of the content of the portfolios
- The results of the assessment and the relationship of writing to a survey also given to students
- A reflection on the pilot assessment
- Sample student papers that illustrate student performance

(TC# 470.3REPOFV)

Vermont Mathematics Portfolio Project. *Resource Book*, 1991. Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05602, (802) 828-3135.

This document includes sample performance tasks taken from portfolio entries submitted by teachers as part of Vermont's 1991 math portfolio pilot project, a resource bibliography, and a list of suggested readings. The purpose is to provide colleagues with tasks that have worked well with students to promote problem solving. This is meant as a companion document to the Teacher's Guide (TC# 500.3TEAGUI).

(TC# 500.3RESBOO)

Vermont Mathematics Portfolio Project. *Teacher's Guide*, 1991. Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05602, (802) 828-3135.

This document presents Vermont's updated view of what should go into a mathematics portfolio, provides detailed information about the scoring criteria for portfolio entries and the portfolio as a whole, discusses how to develop tasks that will invite student problem solving, and provides help with how to manage the portfolios. This is a companion piece to TC# 500.3RESBOO.

(TC# 500.3TEAGUI)

Vermont Mathematics Portfolio Project. *Grade Eight Benchmarks*, 1991. Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05602, (802) 828-3135.

This document provides lots of samples of grade eight student work that illustrate different scores for each of the seven analytical traits used in the Vermont Mathematics Portfolio Project. Samples were taken from the 1991 portfolio pilot.

(TC# 500.3GRAEIB)

Vermont Mathematics Portfolio Project. *Grade Four Benchmarks*, 1991. Available from: Vermont Department of Education, 120 State St., Montpelier, VT 05602, (802) 828-3135.

This document provides lots of samples of grade four student work that illustrate different scores for each of the seven analytical traits used in the Vermont Mathematics Portfolio Project. Samples were taken from the 1991 portfolio pilot.

(TC# 500.3GRAFOB)

Viechnicki, Karen J., Jane Rohrer, Richard Ambrose et al. *The Impact of Portfolio Assessment on Teacher's Classroom Activities*, 1992. Available from: Kent State University, Kent, OH 44242.

This paper reports on a project in which portfolios were used to identify disadvantaged primary-aged students for a gifted and talented program. The portfolio for each student was assembled by the classroom teacher and included: anecdotal records (at least one per week), observations of six sample lessons, a peer/self nomination form, a home-community survey, and examples of products produced by the student. Portfolios were analyzed for evidence of exceptional learning, use of information, creativity, or motivation. (General descriptions of these areas are provided but no detailed definitions or student work are included.)

The authors also conducted interviews with teachers on the effect of the portfolio process on their daily instructional activities. Results showed that teachers have changed their teaching and management styles in the classroom, and that they view the students differently as a result of putting together the portfolios.

(TC# 070.6IMPOPA)

Villano, Jim. *Fairbanks Metacognitive Cover Letter Exercise*, 1991. Available from: Fairbanks North Star Borough Schools, 520 5th Ave., Fairbanks, AK 99701, (907) 452-2000, fax: (907) 451-6160.

This document describes an exercise designed to get seventh grade students to analyze metacognitive letters in preparation for writing their own. Students are given nine metacognitive letters and are asked to guess the grade level of the students writing each, and why they came to the conclusions they did. Then students list all the different types of statements that students made in these letters, and, finally, pick the best letters and discuss what made them good. Copies of the letters and a description of the exercise are included.

(TC# 470.6FAIMEL)

Wagner, C. Lyn, Dana R. Brock, and Ann T. Agnew. *Developing Literacy Portfolios in Teacher Education Courses*. Located in: Journal of Reading 37, May 1994, pp. 668-674.

The authors implemented portfolios in their language arts methods course to develop familiarity with forms of performance assessment student teachers might use in their own classes. Using portfolios as one way to develop "empowered professionals"—teachers who engage in reflective thinking, learn from social interactions with professional peers, are informed decisionmakers, and set personal learning goals.

Student teachers developed "literacy portfolios"—understanding oneself as a language user. Criteria for portfolios included such things as breadth of readings, writing, evidence of reflective thinking, and use of the writing process. The rating form is included.

Not included are samples of student work or technical information.

(TC# 400.3DEVLIP)

Wiggins, Grant. *Rational Numbers: Toward Grading and Scoring That Help Rather Than Harm Learning.* Located in: American Educator, Winter 1988, pp. 21-25, 45-48.

This article presents a discussion of the need to have clear criteria for both grading and testing. These criteria essentially define what we value in student work. This not only improves consistency in assigning grades or rating performance, but also ensures more clarity for students on expectations and communicates more effectively what to do if performance is not satisfactory. The author presents several examples of criteria. These examples include: seven general criteria for any course of study, oral presentations, writing, and science. The author also discusses ways of making grading uniform across teachers and different grading approaches.

Although not directly about portfolios, this article reinforces the need to have criteria for evaluating portfolios. These criteria must make public what we value so that we know what to teach, students can evaluate their own work, portfolios can be assessed.

(TC# 150.6RATNUM)

Wilson, Jeni, and Lesley Wing Jan. *Thinking for Themselves: Developing Strategies for Reflective Learning*, 1993. Available from: Heinemann, 361 Hanover St., Portsmouth, NH 03801.

The authors are from Australia and offer a practical look at the reflective teaching strategies that can be used in the context of all learning environments. There are ready-to-use ideas on:

- Getting started and developing appropriate learning environments for self-reflection
- Program planning to include reflective teaching and learning
- Questioning and self-assessment techniques

There is a useful and understandable section on self- and group-evaluation that addresses the difference between assessment and evaluation. Samples of forms used for self-reflection and assessment are offered. This book is recommended for K-12 teachers looking for ways to begin self-reflection work with their students and increase their ability to make assessment a part of their everyday lives.

(TC# 050.6THITHE)

Wilson, Jill. *The Role of Metacognition in English Education*. Located in: English Education 17, December 1985, pp. 212-220.

Although not strictly about portfolios, this article is included because of the general feeling that portfolios should require some degree of student self-reflection, and should be analyzed for evidence of student metacognition. This article helps define what metacognition is and provides examples of how to teach metacognitive skills. The basic definition of metacognition in the article is "knowledge and control of one's own cognitive processes."

(TC# 050.5ROLOFM)

Winbury, John and Christine Evans. *Poway Portfolio Project*, 1991. Available from: Poway School District, 10621 Birch Bluff, San Diego, CA 92131.

This paper describes the first three years of a portfolio project at the elementary school level in Poway, California. It includes the performance criteria for reading, writing, listening and speaking in grades K-5. There are also criteria for evaluating the collection of work in the portfolio as a whole. One conclusion that project teachers have reached is that there is a need for shared standards across classrooms.

(TC# 470.3POWPOP)

Winner, Ellen. *ARTS PROPEL: An Introductory Handbook*, 1991. Available from: Educational Testing Service, Rosedale Rd., Princeton, NJ 08541 (609) 734-5686.

This handbook contains the following information about the ARTS PROPEL project: philosophy, integration with instruction, portfolio production and content, domain projects that create a community of learners, performance criteria for entries in the portfolios and for the portfolios themselves, and comments from teachers and students. ARTS PROPEL is based on the philosophy that students are constructors of knowledge and instruction should create a community of learners. Assessment is based on the notion that competence of skilled adults is done by judgments of quality; therefore, we should develop these systems with students as well.

Related documents include: 810.6ARTPRM (music), 810.6ARTPRV (visual arts), and 470.6ARTPRI (writing).

(TC# 000.6ARTPRI)

Winner, Ellen, and Roberta Camp. *ARTS PROPEL: A Handbook for Imaginative Writing*, 1991. Available from: Educational Testing Service, Rosedale Rd., Princeton, NJ 08541, (609) 734-5686.

This handbook addresses itself to the writing portion of the ARTS PROPEL project. Included are sample domain projects, how to develop and use portfolios, what they've learned from the project, and samples of student work, including a complete portfolio. Domain projects present opportunities to students for engaging in in-depth, long-term activities that engage students directly with the demands and techniques of a specified kind of writing, and encourage them to make reflection and assessment part of their writing process. Guidelines for domain projects are presented, as well as samples for poetry and writing scenes.

The two major lessons learned are these: (1) It is essential to link innovative curriculum with teachers' professional development and with assessment practices; and (2) it is essential to involve students in the process of assessment so that assessment becomes an opportunity for reflection and learning.

(TC# 470.6ARTPRI)

Winner, Ellen, Lyle Davidson, and Larry Scripp. *ARTS PROPEL: A Handbook for Music*, 1992. Available from: Educational Testing Service, Rosedale Rd., Princeton, NJ 08541, (609) 734-5686.

This handbook was written specifically for the music portion of the ARTS PROPEL project. Included are sample domain projects in music, suggested procedures for encouraging self-reflection on the part of students, portfolios, and practical assistance on implementation. Domain projects include individual performance, ensemble critique and comparisons, ensemble rehearsal, and ensemble direction.

Portfolios are again approached as vehicles for learning. The portfolio includes different types of things for different classes. The general music portfolio includes such things as questionnaires, peer interviews, journals, invented notation, listening for form, performance comparison, and class tests.

(TC# 810.6ARTPRM)

Winner, Ellen, and Seymour Simmons. *ARTS PROPEL: A Handbook for Visual Arts*, 1992. Available from: Educational Testing Service, Rosedale Rd., Princeton, NJ 08541, (609) 734-5686.

This handbook was developed for the visual arts component of the ARTS PROPEL project. It includes information on goals for students (students as producers of art, perceivers of art and self-reflectors) assessment (including things to look for in

products, perceptions, and self-reflections), journals, domain projects, portfolios, teacher reactions to the project, and practical help on implementation.

The handbook focuses mostly on instruction. Performance criteria are not structured across classrooms; teachers and students develop their own as they go. However, they mostly do focus on the three areas of interest (producers, perceivers, and self-reflectors), and there is the requirement that criteria are publicly known. Examples are provided. Lots of samples of student work are included.

(TC# 810.6ARTPRV)

Wolf, Kenneth P. *Teaching Portfolios: Synthesis of Research and Annotated Bibliography*, 1991. Available from: Far West Laboratory for Educational Research and Development, 730 Harrison St., San Francisco, CA 94107, (415) 565-3000.

"Teaching portfolios" are defined by the author as portfolios developed by teachers to improve and demonstrate their knowledge and skills in teaching. This document includes an annotated bibliography of articles on this topic and a synopsis of thinking in the area based on the articles. The author discusses six issues in the design, implementation and evaluation of teaching portfolios. These topics include:

1. What dimensions of teaching should be documented in the portfolio?
2. What should go in the portfolio?
3. How should the portfolio be evaluated?

(TC# 130.4TEAPOS)

Yancey, Kathleen. *Portfolios in the Writing Classroom*, 1992. Available from: National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801, (217) 328-3870.

The purpose of this book is to discuss and exemplify how portfolios can change what students and teachers learn from classroom writing. The power of portfolios comes from enhancement of performance through evaluation, feedback and self-reflection. The book contains nine articles—descriptions of portfolio projects and testimonials to their effectiveness in promoting student learning.

The initial article provides an overview to the book, and also discusses three dangers with respect to portfolios: (1) that thoughtless imitation will not result in the expected effects; (2) that premature research (that which occurs before teachers have time to practice and refine their methods) will not validate the pedagogy; and (3) that co-

option by large-scale testing programs will damage the usefulness of portfolios for instruction.

(TC# 470.3PORWRC)

Yumori, Wendie, and Katherine Tibbetts. *Practitioners' Perceptions of Transition to Portfolio Assessment.* Located in: ***The Kamehameha Journal of Education* 2, 1991, pp. 37-45.** Available from: **Kamehameha Schools, Kapalama Heights, Honolulu, HI 96817.**

The authors report results of the first year of transition to a portfolio system from a mastery skills approach to tracking student progress. The portfolio system consisted of two parts: standard pieces placed in each portfolio at given times of the school year (done by consultants), and supplementary pieces to be added by students and teachers whenever they wanted. The portfolios were examined for progress in: ownership of reading and writing, reading comprehension, writing process, language and vocabulary usage, word reading strategies, and voluntary reading.

Issues that arose included acceptable formats for supplementary evidence, effects of assessment on instruction, usefulness of data for reporting purposes, and processes in which practitioners and students could engage to make portfolio assessment meaningful. Group problem solving is currently underway to examine some of these issues.

(TC# 400.3PRAPET)

Electronic Resources

The following entries are separated from the papers and documents above because they do not involve actual Test Center holdings. Rather, they are electronic discussion groups and bulletin boards available over the Internet.

Martin Kimeldorf. *Portfolio Palace.*

Martin Kimeldorf has announced an electronic bulletin board on portfolios that he is coordinating.

This board will be monitored to insure that only postings related to the topic of portfolios are uploaded. Materials must be practical as opposed to theoretical and not be offensive. "If you want to share ideas, ask questions, let others know what you are doing with portfolios—this is the place."

Location (directions): America Online (AOL), Electronic School House (keyword ESH), School to School: LINKS, Portfolio Palace.

"Related to the bulletin board located in the Portfolio Palace folder you'll find a library where you can upload (or download) portfolio samples, curriculums, worksheets, lessons, book reviews, lists of resources, notices about items you have uploaded for others, anything which might help people in their royal quest to use portfolios in education."

Karen Jones Shiver. *Internet Discussion Group.* Maintained by: Alief ISD, Houston, TX.

Karen Jones Shiver coordinates an Internet discussion group on portfolios. Her e-mail address is: kjshiver@tenet.edu

Scholastic Internet Center

Via Gopher: Point your gopher software at Scholastic.com:2003

Via World Wide Web: Connect to <http://Scholastic.com:2005/>

For more information on connecting, contact the network administrator: Eadie Adamson, Scholastic Network Development Group eadie@aol.com, or staff@scholastic.com (212) 343-4940.

Portfolio References Classification Scheme

Primary Focus of the Article

- 01 Theory--*paper discusses reasons to use portfolios or issues regarding portfolios*
- 02 Example--*an actual portfolio system is described*
- 03 Related--*the article may not be directly about portfolios, but is related, such as a newsletter about portfolios, or scoring rubrics*

Purpose for the Portfolio Scheme Described

- 04 Alternate Credit--*to obtain credit for a course not actually taken*
- 05 Celebration--*as a celebration of what a student has accomplished*
- 06 College Entrance--*as a selection mechanism for a college or university*
- 07 Curriculum or Program Evaluation--*to evaluate curriculum or a program*
- 08 Grading--*to assign grades in classes*
- 09 Graduation Requirement--*as a graduation requirement*
- 10 Instruction (classroom)--*as a classroom instructional tool*
- 10a Progress
- 10b Literacy
- 11 Job Application/Employability Skills--*to supplement a vita*
- 12 Large-Scale Assessment/Accountability--*as a means of collecting a broader range of performance for large-scale assessment*
- 13 Competency Assessment--*to certify student competence*
- 14 Needs Assessment--*to assess the needs of students, communities, teachers, etc.*
- 15 Parent Involvement--*to use to communicate with parents or involve parents*
- 16 Placement in Classes or Programs
- 17 Teacher Self-Reflection--*for teachers to use to think about what worked and what didn't*

Subject Area Covered

- 18 All--*cross-disciplinary; more than one subject, but the subjects are not integrated*
- 19 Art/Music
- 20 Health
- 21 Interdisciplinary--*work represents tasks that combine subject areas, as in thematic units*
- 22 Language Arts (integrated)
- 23 Math
- 24 Reading
- 25 Science
- 26 Writing
- 26a Technical Writing
- 27 Other

Grade Level

28	Primary--K-3
29	Elementary--4-6
30	Secondary--7-12
31	Post-secondary--college and university
32	Special Education
33	All

Type of Portfolio

34	Individual--contains the work of only one person
35	Composite--contains work across individuals

Features of Portfolio System/Article

36	Includes Criteria:	content--individual entries
37		whole portfolio
38		metacognition--self-reflection
39	Includes samples of student work	
40	Discusses metacognition	
41	Includes help with implementation	
42	Discusses student self-selection	
43	Degree of structure:	low--there is great leeway for what is included
44		medium--categories of entries are required, but choice of work within each category is open
45		high--exact work to be placed in the portfolio is specified
45a	Computer software	

46 Professional Portfolios--portfolios for teachers, principals and other staff

47 Catalogs

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01Arter & Paulson (TC#150.6COMPOW)
01Arter & Spandel (TC#105.6USIPOI)
01Arter, Culham et al. (TC#150.6CLAAS113 & v13)
01Arter, Spandel et al. (TC#150.6PORFAS)
01Brandt (TC#470.6WHEWRP)
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01Collins (TC#600.6PORSCE)
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02Austin (TC#150.6CHAVIS)
02Barton & Collins (TC#130.4PORTEE)
02Beacon Heights (TC#400.3PORTPR)
02Belanoff & Dickson (TC#000.6PORPRP)
02Bellingham Pub. Schools (TC#000.3BELPUS)
02Bishop (TC#440.3ONCURA)
02Booth (TC#150.6SPLPOK)
02Braunger (TC#400.6PORLAC)
02Burnham (TC#470.3POREVR)
02Calif. Assessment Collaborative
(TC#150.6CHACOU)
02Calif. Dept. of Ed. (TC#400.3CALLER2)
02Calif. Dept. of Ed. (TC#600.3GOLSTE2)
02Calkins (TC#400.3JUNINL4)
02Carr (TC#810.6PORFOL)
02Clemmons, Laase et al. (TC#400.3PORCLT)
02Coleman (TC#050.6PORASK)
02Collins & Dana (TC#000.3USIPOM)
02Comm. Exp. for Career Ed. (TC#220.3RECOFS)
02Daws (TC#000.3SCHWIP)
02Doolittle (TC#130.6TEAPOA)
02Ed. Dev. Center, Inc. (TC#800.3ASSSTL)
02Elbow & Belanoff (TC#470.3STAUNO)
- 02Elliott & Harriman (TC#470.3FEASTO)
02Ellsworth (TC#150.6ASSPRL)
02Farr (TC#400.3INTASS2)
02Feeney (TC#000.3ROPEWI)
02Ferguson (TC#500.3ZERMAA)
02Flood (TC#400.3REPREP)
02Frazier (TC#470.3COMPOI)
02Frazier (TC#470.3PORASF)
02Gahagan, Smith et al. (TC#400.3PROPRI)
02Gearhart (TC#470.3WRIPOE)
02Gentile (TC#470.3EXPNEI)
02Glazer (TC#400.6PORBEY)
02Grady (TC#150.6GRAPRO2)
02Graves (TC#150.6PORPOR)
02Grosvenor (TC#400.3TAKASI)
02Gursky (TC#110.3MAIPOB)
02Hackett (TC#500.6FUNTES)
02Hancock (TC#150.6BUTWHA)
02Hansen (TC#400.3LITPOH)
02Hansen (TC#440.6LITPOE)
02Harbron & Rivard (TC#440.3LEAACP)
02Heath (TC#400.6GUILAA)
02Herbert (TC#000.3PORINR)
02Hern (TC#150.6PORASU)
02Hessler & Kuntz (TC#223.3STUPOE)
02Hibbard (TC#470.3ASSWRP)
02Hill, Kamber et al. (TC#150.6WAYMAS)
02Horn & Olson (TC#000.3LANCOP)
02Hulsart (TC#150.6STUPOP)
02Hunt (TC#470.3STUMET)
02Ingalls & Jones (TC#470.3THELOT)
02Int'l Reading Association (TC#440.6PORILP)
02Jasmine (TC#400.6PORASL)
02Kekic (TC#800.3ASSTEC)
02Kilmer (TC#000.6PORPRA)
02Kimeldorf (TC#000.6CREPOS)
02Koretz, Stecher et al. (TC#000.6VERPOF)
02Krest (TC#470.6ADATHP)
02Lambdin & Walker (TC#500.3PLAPOA)
02Lee (TC#070.3SUGFRE)
02LeMahieu (TC#000.6USISTP)
02LeMahieu (TC#470.3WRIPOC)
02Lewis (TC#150.6PORTRF)
02Little & Allan (TC#150.6STULET)
02Maier (TC#150.6STULEP)
02Malarz, D'Arcangelo et al. (TC#150.6REDASOI & v)
02Marienberg (TC#470.3PORCON)
02Mathews (TC#440.6FROCOM)
02Mengel (TC#150.6ELEPOS)
02Michigan Dept. of Ed. (TC#000.3EMPSKA)
02Mondor (TC#150.1EFFCHG)
02Moss (TC#470.6PORACI)
02Mumme (TC#500.6PORASI)
02Murdick (TC#150.6PORANP)

- 02Nat'l Ctr. for Res. (TC#470.3PORASHv)
 02Nat'l Education Assn. (TC#150.6STUPOR)
 02Pandy (TC#500.3SAMMAA)
 02Paris (TC#400.3PORASR)
 02Parr (TC#000.6LEWANC)
 02Paulson & Paulson (TC#500.3PORPEL)
 02Paulson (TC#500.6PORGUJ)
 02Polakowski (TC#440.3LITPOE)
 02Price (TC#810.6DEVAPO)
 02Pritchard (TC#500.3STUPOT)
 02Rabinowitz (TC#223.3CARTEA2)
 02Rief (TC#470.3FINTHV)
 02Rousculp & Maring (TC#000.3PORFOC)
 02Sack (TC#150.6PORAST)
 02Scherban-Sierra (TC#130.3PORTHB)
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 02Shiver (TC#000.6INTPOD)
 02Short & Kauffman (TC#400.3HEASTV)
 02Simmons & Resnick (TC#150.6ASSCAS)
 02Simmons (TC#470.3PORLAA)
 02Spandel & Culham (TC#150.6INCLSG02, 102, & v02)
 02Stahle & Mitchell (TC#130.3PORASC)
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 02Valeri-Gold, Olson et al. (TC#440.6PORCOA)
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 02Vermont Math. Port. Proj. (TC#500.3GRAFOB)
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 02Winbury & Evans (TC#470.3POWPOP)
 02Winner & Camp (TC#470.6ARTPRI)
 02Winner & Simmons (TC#810.6ARTPRV)
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 02Winner, Davidson et al. (TC#810.6ARTPRM)
 02Yancey (TC#470.3PORWRC)
 02Yumori & Tibbetts (TC#400.3PRAPET)
- 03Ames (TC#440.6SELRES)
 03Arter (TC#000.6NWESTS)
 03Barrett (TC#150.6TECSUA)
 03Bishop (TC#470.6REVTEW)
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 03Campbell (TC#000.3LASDIP)
 03Ctr. for Perf. Assess. (TC#000.1CALPOP)
 03Coalition of Essential Schools (TC#150.6VARARD)
 03Cooper & Davies (TC#000.6SANDIP)
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 03Erickson (TC#470.6DEVSTC#)
- 03Gearhart (TC#470.3WRIPOE)
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 03Hackett (TC#500.6FUNTES)
 03Hettterscheidt, Pott et al. (TC#400.3USICOR)
 03Johns & VanLeirsburg (TC#130.4PORASA)
 03Johnson (TC#500.6PORMAL)
 03Knight (TC#440.3CODJOE)
 03Kolanowski (TC#400.6USEPOA)
 03Levi (TC#400.6ASSEDV)
 03Lewis (TC#470.3PILPRF)
 03Meyer (TC#150.6ASSCOU)
 03Meyer (TC#150.6FROFOT)
 03Monier (TC#150.6SENPRO)
 03Nat'l Computer Systems (TC#150.6NCSABA)
 03Oboyski-Butler et al. (TC#400.6SHAJOE)
 03Paulson & Paulson (TC#340.6AFTREP)
 03Paulson & Paulson (TC#500.6SETSTS)
 03Paulson (TC#070.6FEAASY)
 03Paulson (TC#500.6STUSER)
 03Preece (TC#000.6SELMAM)
 03Project PULSE (TC#600.6PULSE)
 03Scardamalia & Bereiter (TC#050.5CHIASC)
 03Schuman & Maier (TC#000.3SELRES)
 03Schwartz (TC#470.6LETTHA)
 03Short & Kauffman (TC#400.3HEASTV)
 03Thompson (TC#470.3SELASA)
 03Vermont Math. Port. Proj. (TC#500.3RESBOO)
 03Villano (TC#470.6FAIMEL)
 03Wiggins (TC#150.6RATNUM)
 03Wilson & Wing Jan (TC#050.6THETHE)
 03Wilson (TC#050.5ROLOFM)
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- 04Comm. Exp. for Career Ed. (TC#220.3RECOFS)
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 05Mondor (TC#150.1EFFCHG)
 05Short & Kauffman (TC#400.3HEASTV)
 05Spandel & Culham (TC#150.6INCLSG02, 102, & v02)
- 06Arter, Culham et al. (TC#150.6CLAASI13 & v13)
 06Kimeldorf (TC#000.6CREPOS)
 06Parr (TC#000.6LEWANC)
- 07Adams (TC#700.6PORASS)
 07Schuman & Maier (TC#000.3SELRES)
- 08Barton & Collins (TC#130.4PORTEE)
 08Burnham (TC#470.3POREVR)
 08Crowley (TC#500.3STUMAP)
 08Ferguson (TC#500.3ZERMAA)

08Hancock (TC#150.6BUTWHA)
 08Jasmine (TC#400.6PORASL)
 08Kekic (TC#800.3ASSTEC)
 08Lambdin & Walker (TC#500.3PLAPOA)
 08Mumme (TC#500.6PORASI)
 08Murdick (TC#150.6PORANP)
 08Salinger (TC#400.6CCABAP)
 08Stahle & Mitchell (TC#130.3PORASC)
 08Tierney, Carter et al. (TC#400.6PORASC)
 08Wagner, Brock et al. (TC#400.3DEVLP)
 08Winbury & Evans (TC#470.3POWPOP)

 09Feeney (TC#000.3ROPEWI)
 09Monier (TC#150.6SENPRO)

 10Ames & Sumner (TC#150.6SUPATR)
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 10Calif. Dept. of Ed. (TC#600.6SCIPOW)
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 10Clemmons, Laase et al. (TC#400.3PORCLT)
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 10Glazer (TC#400.6PORBEY)
 10Gomez (TC#150.6WHAARP)
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 10Griffin (TC#400.3LITPRO)
 10Grosvenor (TC#400.3TAKASI)
 10Hackett (TC#500.6FUNTES)
 10Hansen (TC#400.3LITPOH)
 10Hansen (TC#440.6LITPOE)
 10Harbron & Rivard (TC#440.3LEAACF)
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 10Hibbard (TC#470.3ASSWRP)
 10Hill, Kamber et al. (TC#150.6WAYMAS)
 10Horn & Olson (TC#000.3LANCOP)

10Hunt (TC#470.3STUMET)
 10Ingalls & Jones (TC#470.3THELOT)
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 10LeMahieu (TC#000.6USISTP)
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 10McClure, Walters et al. (TC#150.6NONUSS)
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 10Paulson, Paulson et al. (TC#150.6WHAMAA)
 10Pokay & Tayeh (TC#500.3EFFPOU)
 10Price (TC#810.6DEVAPO)
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 10Salinger (TC#400.6CCABAP)
 10Scherban-Sierra (TC#130.3PORTHB)
 10Schuman & Maier (TC#000.3SELRES)
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 10Shiver (TC#000.6INTPOD)
 10Short & Kauffman (TC#400.3HEASTV)
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 10Thompson (TC#500.3PORMOD)
 10Tierney, Carter et al. (TC#400.6PORASC)
 10Unanue (TC#400.6CARPOA)
 10Valencia (TC#440.6APORAP)
 10Vavrus (TC#150.6PUTPOT)
 10Vermont Math. Port. Proj. (TC#500.3GRAEIB)
 10Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 10Vermont Math. Port. Proj. (TC#500.3RESBOO)
 10Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 10Villano (TC#470.6FAIMEL)

10Wagner, Brock et al. (TC#400.3DEVLP)
 10Wilson (TC#050.5ROLOFM)
 10Winbury & Evans (TC#470.3POWPOP)
 10Winner & Camp (TC#470.6ARTPRI)
 10Winner & Simmons (TC#810.6ARTPRV)
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 10Winner, Davidson et al. (TC#810.6ARTPRM)
 10Yancey (TC#470.3PORWRC)

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 10aCalif. Dept. of Ed. (TC#400.3CALLER2)
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 10aEd. Dev. Center, Inc. (TC#800.3ASSSTL)
 10aMcClure, Walters et al. (TC#150.6NONUSS)
 10aMondor (TC#150.1EFFCHG)
 10aNat'l Education Assn. (TC#150.6STUPOR)
 10aPandy (TC#500.3SAMMAA)
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 10aPaulson & Paulson (TC#340.6AFTREP)
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 10aWinner & Simmons (TC#810.6ARTPRV)
 10aWinner (TC#000.6ARTPRI)
 10aWinner, Davidson et al. (TC#810.6ARTPRM)
 10aYumori & Tibbetts (TC#400.3PRAPET)

10bGraves (TC#150.6PORPOR)
 10bHansen (TC#440.6LITPOE)

11Belanoff & Dickson (TC#000.6PORPRP)
 11Carr (TC#810.6PORFOL)
 11Hulsart (TC#150.6STUPOP)
 11Hunt (TC#810.4PREAPO)
 11Kimeldorf (TC#000.6CREPOS)
 11Sack (TC#150.6PORAST)
 11Scherban-Sierra (TC#130.3PORTHB)

12Adams (TC#700.6PORASS)
 12Calkins (TC#400.3JUNINLA)
 12Gearhart (TC#470.3WRIPOE)
 12Gentile (TC#470.3EXPNEM)

12Graves (TC#150.6PORPOR)
 12Griffin (TC#400.3LITPRO)
 12Heath (TC#400.6GUILAA)
 12Koretz, Stecher et al. (TC#000.6VERPOF)
 12LeMahieu (TC#000.6USISTP)
 12McRobbie (TC#150.6USIPOA)
 12Meyer, Schuman et al. (TC#105.6NWEWHP)
 12Moss (TC#470.6PORACI)
 12Pandy (TC#500.3SAMMAA)
 12Paulson (TC#150.6PORLOF)
 12Simmons (TC#470.3PORLAA)
 12Valencia & Calfee (TC#400.3DEVUSL)
 12Vermont Dept. of Ed. (TC#470.3REPOFV)
 12Vermont Dept. of Ed. (TC#500.3REPOFV)
 12Vermont Math. Port. Proj. (TC#500.3GRAEIB)
 12Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 12Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 12Yumori & Tibbetts (TC#400.3PRAPET)

13Belanoff & Dickson (TC#000.6PORPRP)
 13Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 13Daws (TC#000.3SCHWIP)
 13Doolittle (TC#130.6TEAPOA)
 13Elbow & Belanoff (TC#470.3STAUNO)
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 13Scherban-Sierra (TC#130.3PORTHB)
 13Spandel & Culham (TC#150.6INCLSG02, t02, & v02)

15Austin (TC#150.6CHAVIS)
 15Crowley (TC#500.3STUMAP)
 15Ferguson (TC#500.3ZERMAA)
 15Flood (TC#400.3REPREP)
 15Gahagan, Smith et al. (TC#400.3PROPRI)
 15Hackett (TC#500.6FUNTES)
 15Hill, Kamber et al. (TC#150.6WAYMAS)
 15Lambdin & Walker (TC#500.3PLAPOA)
 15Lee (TC#070.3SUGFRE)
 15Levi (TC#400.6ASSEDV)
 15Little & Allan (TC#150.6STULET)
 15Maier (TC#150.6STULEP)
 15Malarz, D'Arcangelo et al. (TC#150.6REDASO1 & v)
 15McClure, Walters et al. (TC#150.6NONUSS)
 15Paulson & Paulson (TC#340.6AFTREP)
 15Shiver (TC#000.6INTPOD)
 15Winbury & Evans (TC#470.3POWPOP)

16Arter, Culham et al. (TC#150.6CLAASH13 & v13)
 16Elliott & Harriman (TC#470.3FEASTO)
 16Mondor (TC#150.1EFFCHG)
 16Viechnicki, Rohrer et al. (TC#070.6IMPOPA)

17Athanases (TC#130.6TEAREE)
 17Frazier (TC#470.3COMPOI)
 17Frazier (TC#470.3PORASF)

18Arter, Culham et al. (TC#150.6CLAAS113 & v13)
 18Austin (TC#150.6CHAVIS)
 18Barrett (TC#150.6TECSUA)
 18Bellingham Pub. Schools (TC#000.3BELPUS)
 18Calif. Assessment Collaborative
 (TC#150.6CHACOU)
 18Campbell (TC#000.3LASDIP)
 18Clemmons, Laase et al. (TC#400.3PORCLT)
 18Coleman (TC#050.6PORASK)
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 18Donaldson (TC#810.3CRITES)
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 18Hessler & Kuntz (TC#223.3STUPOE)
 18Hibbard (TC#470.3ASSWRP)
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 18Paulson (TC#150.6PORLOF)
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 18Wiggins (TC#150.6RATNUM)
 18Wilson (TC#050.5ROLOFM)

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 19LeMahieu (TC#000.6USISTP)
 19Price (TC#810.6DEVAPO)
 19Shiver (TC#000.6INTPOD)
 19Winner & Simmons (TC#810.6ARTPRV)
 19Winner (TC#000.6ARTPRI)

21Comm. Exp. for Career Ed. (TC#220.3RECOFS)
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 21Hulsart (TC#150.6STUPOP)
 21Kilmer (TC#000.6PORPRA)
 21Lee (TC#070.3SUGFRE)
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 21Unanue (TC#400.6CARPOA)

22Arter, Culham et al. (TC#150.6CLAAS113 & v13)
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 22Collins & Dana (TC#000.3USIPOM)
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 22Glazer (TC#400.6PORBEY)
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23Arter (TC#000.6NWESTS)
 23Crowley (TC#500.3STUMAP)
 23EQUALS Project (TC#500.6ASSALI)
 23Ferguson (TC#500.3ZERMAA)
 23Grady (TC#150.6GRAPRO2)
 23Hackett (TC#500.6FUNTES)
 23Johnson (TC#500.6PORMAL)
 23Koretz, Stecher et al. (TC#000.6VERPOF)
 23Lambdin & Walker (TC#500.3PLAPOA)
 23Mumme (TC#500.6PORASI)
 23Pandy (TC#500.3SAMMAA)
 23Paulson & Paulson (TC#500.3PORPEL)
 23Paulson & Paulson (TC#500.6SETSTS)
 23Paulson (TC#500.6PORGUJ)
 23Pokay & Tayeh (TC#500.3EFFPOU)
 23Pritchard (TC#500.3STUPOT)
 23Serrano (TC#000.3LOOPOA)
 23Stenmark (TC#500.3MATASM)
 23Thompson (TC#500.3PORMOD)
 23Vermont Dept. of Ed. (TC#500.3REPOFV)
 23Vermont Math. Port. Proj. (TC#500.3GRAEIB)

23Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 23Vermont Math. Port. Proj. (TC#500.3RESBOO)
 23Vermont Math. Port. Proj. (TC#500.3TEAGUI)

24Ames (TC#440.6SELRES)
 24Beacon Heights (TC#400.3PORTPR)
 24Bishop (TC#440.3ONCURA)
 24DeFabio (TC#400.3CHASTP)
 24Farr (TC#400.3INTASS2)
 24Fingeret (TC#440.3ITBELM)
 24Flood (TC#400.3REPREF)
 24Grady (TC#150.6GRAPRO2)
 24Griffin (TC#400.3LITPRO)
 24Hansen (TC#400.3LITPOH)
 24Hansen (TC#440.6LITPOE)
 24Harbron & Rivard (TC#440.3LEAACP)
 24Hettterscheidt, Pott et al. (TC#400.3USICOR)
 24Int'l Reading Assn. (TC#440.6PORILP)
 24Knight (TC#440.3CODJOE)
 24Mathews (TC#440.6FROCOM)
 24Nat'l Education Assn. (TC#150.6STUPOR)
 24Paris (TC#400.3PORASR)
 24Shiver (TC#000.6INTPOD)
 24Short & Kauffman (TC#400.3HEASTV)
 24Stahle & Mitchell (TC#130.3PORASC)
 24Valencia (TC#400.3ASSREA)
 24Valencia (TC#440.6APORAP)

25Arter (TC#000.6NWESTS)
 25Barton & Collins (TC#130.4PORTEE)
 25Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 25Calif. Dept. of Ed. (TC#600.6SCIPOW)
 25Collins (TC#600.6PORSCE)
 25Hill, Kamber et al. (TC#150.6WAYMAS)
 25Scherban-Sierra (TC#130.3PORTHB)
 25Serrano (TC#000.3LOOPOA)

26Arter (TC#000.6NWESTS)
 26Arter, Culham et al. (TC#150.6CLAAS13 & v13)
 26Beacon Heights (TC#400.3PORTPR)
 26Belanoff & Dickson (TC#000.6PORPRP)
 26Bishop (TC#470.6REVTEW)
 26Brandt (TC#470.6WHEWRP)
 26Burnham (TC#470.3POREVR)
 26Elbow & Belanoff (TC#470.3STAUNO)
 26Elliott & Harriman (TC#470.3FEASTO)
 26Erickson (TC#470.6DEVSTC#)
 26Farr (TC#400.3INTASS2)
 26Flood (TC#400.3REPREF)
 26Frazier (TC#470.3COMPOI)
 26Frazier (TC#470.3PORASF)
 26Gentile (TC#470.3EXPNEM)
 26Grady (TC#150.6GRAPRO2)
 26Griffin (TC#400.3LITPRO)

26Hancock (TC#150.6BUTWHA)
 26Hern (TC#150.6PORASU)
 26Herter (TC#470.6WRTPOA)
 26Hettterscheidt, Pott et al. (TC#400.3USICOR)
 26Hibbard (TC#470.3ASSWRP)
 26Koretz, Stecher et al. (TC#000.6VERPOF)
 26Krest (TC#470.6ADATHP)
 26LeMahieu (TC#000.6USISTP)
 26LeMahieu (TC#470.3WRIPOC)
 26Lewis (TC#150.6PORTRF)
 26Lewis (TC#470.3PILPRF)
 26Marienberg (TC#470.3PORCON)
 26Moss (TC#470.6PORACI)
 26Murdick (TC#150.6PORANP)
 26Nat'l Ctr. for Res. (TC#470.3PORASHv)
 26Nat'l Education Assn. (TC#150.6STUPOR)
 26Rief (TC#470.3FINTHV)
 26Schwartz (TC#470.6LETTA)
 26Serrano (TC#000.3LOOPOA)
 26Shiver (TC#000.6INTPOD)
 26Short & Kauffman (TC#400.3HEASTV)
 26Simmons (TC#470.3PORLAA)
 26Thompson (TC#470.3SELASA)
 26Valencia (TC#400.3ASSREA)
 26Valeri-Gold, Olson et al. (TC#440.6PORCOA)
 26Vermont Dept. of Ed. (TC#470.3REPOFV)
 26Villano (TC#470.6FAIMEL)
 26Winner & Camp (TC#470.6ARTPRI)
 26Winner (TC#000.6ARTPRI)
 26Yancey (TC#470.3PORWRC)

26aBelanoff & Dickson (TC#000.6PORPRP)
 26aBishop (TC#470.6REVTEW)

27Adams (TC#700.6PORASS)
 27Ed. Dev. Center, Inc. (TC#800.3ASSSTL)
 27Kekic (TC#800.3ASSTEC)
 27LeMahieu (TC#000.6USISTP)
 27Rabinowitz (TC#223.3CARTEA2)
 27Winner (TC#000.6ARTPRI)
 27Winner, Davidson et al. (TC#810.6ARTPRM)

28Arter (TC#000.6NWESTS)
 28Arter, Culham et al. (TC#150.6CLAAS13 & v13)
 28Beacon Heights (TC#400.3PORTPR)
 28Bellingham Pub. Schools (TC#000.3BELPUS)
 28Bishop (TC#440.3ONCURA)
 28Calkins (TC#400.3JUNINLA)
 28Campbell (TC#000.3LASDIP)
 28Farr (TC#400.3INTASS2)
 28Gearhart (TC#470.3WRIPOE)
 28Glazer (TC#400.6PORBEY)
 28Grady (TC#150.6GRAPRO2)
 28Graves (TC#150.6PORPOR)

- 28Grosvenor (TC#400.3TAKASI)
 28Hansen (TC#400.3LITPOH)
 28Herbert (TC#000.3PORINR)
 28Hern (TC#150.6PORASU)
 28Hunt (TC#470.3STUMET)
 28Jasmine (TC#400.6PORASL)
 28Koretz, Stecher et al. (TC#000.6VERPOF)
 28Lee (TC#070.3SUGFRE)
 28Levi (TC#400.6ASSEDV)
 28Lewis (TC#150.6PORTRF)
 28Lewis (TC#470.3PILPRF)
 28Maier (TC#150.6STULEP)
 28Malarz, D'Arcangelo et al. (TC#150.6REDASOI & v)
 28Mathews (TC#440.6FROCOM)
 28Mengel (TC#150.6ELEPOS)
 28Nat'l Ctr. for Res. (TC#470.3PORASHv)
 28Oboyski-Butler et al. (TC#400.6SHAJOE)
 28Pandy (TC#500.3SAMMAA)
 28Paris (TC#400.3PORASR)
 28Paulson & Paulson (TC#500.3PORPEL)
 28Paulson & Paulson (TC#500.6SETSTS)
 28Paulson (TC#070.6FEAASY)
 28Paulson (TC#500.6PORGLJ)
 28Paulson (TC#500.6STUSER)
 28Polakowski (TC#440.3LITPOE)
 28Short & Kauffman (TC#400.3HEASTV)
 28Tierney, Carter et al. (TC#400.6PORASC)
 28Valencia & Calfee (TC#400.3DEVUSL)
 28Viechnicki, Rohrer et al. (TC#070.6IMPOPA)
 28Winbury & Evans (TC#470.3POWPOP)
 28Yumori & Tibbetts (TC#400.3PRAPET)
- 29Arter (TC#000.6NWESTS)
 29Austin (TC#150.6CHAVIS)
 29Beacon Heights (TC#400.3PORTPR)
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 29Bishop (TC#440.3ONCURA)
 29Campbell (TC#000.3LASDIP)
 29Clemmons, Laase et al. (TC#400.3PORCLT)
 29Farr (TC#400.3INTASS2)
 29Ferguson (TC#500.3ZERMAA)
 29Flood (TC#400.3REPREP)
 29Frazier (TC#470.3COMPOI)
 29Frazier (TC#470.3PORASF)
 29Gearhart (TC#470.3WRIPOE)
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 29Hansen (TC#400.3LITPOH)
 29Hansen (TC#440.6LITPOE)
 29Herbert (TC#000.3PORINR)
- 29Hern (TC#150.6PORASU)
 29Hettterscheidt, Pott et al. (TC#400.3USICOR)
 29Hill, Kamber et al. (TC#150.6WAYMAS)
 29Jasmine (TC#400.6PORASL)
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 29Knight (TC#440.3CODJOE)
 29LeMahieu (TC#470.3WRIPOC)
 29Lewis (TC#150.6PORTRF)
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 29Mengel (TC#150.6ELEPOS)
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 29Vermont Dept. of Ed. (TC#500.3REPOFV)
 29Vermont Math. Port. Proj. (TC#500.3GRAEIB)
 29Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 29Vermont Math. Port. Proj. (TC#500.3RESBOO)
 29Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 29Winbury & Evans (TC#470.3POWPOP)
 29Yumori & Tibbetts (TC#400.3PRAPET)
- 30Ames (TC#440.6SELRES)
 30Arter (TC#000.6NWESTS)
 30Arter, Culham et al. (TC#150.6CLAAS13 & v13)
 30Bishop (TC#470.6REVTEW)
 30Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 30Carr (TC#810.6PORFOL)
 30Collins & Dana (TC#000.3USIPOM)
 30Comm. Exp. for Career Ed. (TC#220.3RECOFS)
 30Crowley (TC#500.3STUMAP)
 30Daws (TC#000.3SCHWIP)
 30Ed. Dev. Center, Inc. (TC#800.3ASSSTL)
 30Elliott & Harriman (TC#470.3FEASTO)
 30Farr (TC#400.3INTASS2)
 30Feeney (TC#000.3ROPEWI)
 30Gentile (TC#470.3EXPNEM)
 30Grady (TC#150.6GRAPRO2)
 30Graves (TC#150.6PORPOR)
 30Hackett (TC#500.6FUNTES)
 30Hancock (TC#150.6BUTWHA)
 30Hansen (TC#400.3LITPOH)
 30Harbron & Rivard (TC#440.3LEAACP)
 30Herbert (TC#000.3PORINR)
 30Herter (TC#470.6WRTPOA)

- 30Hibbard (TC#470.3ASSWRP)
 30Hulsart (TC#150.6STUPOP)
 30Ingalls & Jones (TC#470.3THELOT)
 30Int'l Reading Assn. (TC#440.6PORILP)
 30Kekic (TC#800.3ASSTEC)
 30Kilmer (TC#000.6PORPRA)
 30Kimeldorf (TC#000.6CREPOS)
 30Koretz, Stecher et al. (TC#000.6VERPOF)
 30Krest (TC#470.6ADATHP)
 30Lambdin & Walker (TC#500.3PLAPOA)
 30LeMahieu (TC#000.6USISTP)
 30LeMahieu (TC#470.3WRIPOC)
 30Malarz, D'Arcangelo et al. (TC#150.6REDASOI & v)
 30Marienberg (TC#470.3PORCON)
 30Michigan Dept. of Ed. (TC#000.3EMPSKA)
 30Mondor (TC#150.1EFFCHG)
 30Monier (TC#150.6SENPRO)
 30Moss (TC#470.6PORACI)
 30Murdick (TC#150.6PORANP)
 30Pandy (TC#500.3SAMMAA)
 30Parr (TC#000.6LEWANC)
 30Price (TC#810.6DEVAPO)
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 30Rabinowitz (TC#223.3CARTEAZ)
 30Sack (TC#150.6PORAST)
 30Schwartz (TC#470.6LETTHA)
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 30Thompson (TC#470.3SELASA)
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 30Thomson (TC#150.6THESCO)
 30Tierney, Carter et al. (TC#400.6PORASC)
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 30Vermont Dept. of Ed. (TC#500.3REPOFV)
 30Vermont Math. Port. Proj. (TC#500.3GRAEIB)
 30Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 30Vermont Math. Port. Proj. (TC#500.3RESBOO)
 30Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 30Villano (TC#470.6FAIMEL)
 30Winner & Camp (TC#470.6ARTPRI)
 30Winner & Simmons (TC#810.6ARTPRV)
 30Winner (TC#000.6ARTPRI)
 30Winner, Davidson et al. (TC#810.6ARTPRM)
- 31Barton & Collins (TC#130.4PORTEE)
 31Belanoff & Dickson (TC#000.6PORPRP)
 31Burnham (TC#470.3POREVR)
 31Elbow & Belanoff (TC#470.3STAUNO)
 31Ellsworth (TC#150.6ASSPRL)
 31Erickson (TC#470.6DEVSTC#)
 31Fingeret (TC#440.3ITBELM)
 31Graves (TC#150.6PORPOR)
 31Hessler & Kuntz (TC#223.3STUPOE)
 31Pokay & Tayeh (TC#500.3EFFPOU)
- 31Rousculp & Maring (TC#000.3PORFOC)
 31Scherban-Sierra (TC#130.3PORTHB)
 31Stahle & Mitchell (TC#130.3PORASC)
 31Valeri-Gold, Olson et al. (TC#440.6PORCOA)
- 32Frazier (TC#470.3COMPOI)
 32Gahagan, Smith et al. (TC#400.3PROPRI)
 32Paulson & Paulson (TC#340.6AFTREP)
 32Swicegood (TC#150.6PORBAA)
 32Wagner, Brock et al. (TC#400.3DEVLIP)
- 33Adams (TC#700.6PORASS)
 33Ames & Sumner (TC#150.6SUPATR)
 33Barrett (TC#150.6TECSUA)
 33Booth (TC#150.6SPLPOK)
 33Brandt (TC#470.6WHEWRP)
 33Calif. Assessment Collaborative
 (TC#150.6CHACOU)
 33Calif. Dept. of Ed. (TC#400.3CALLER2)
 33Coleman (TC#050.6PORASK)
 33Collins (TC#600.6PORSCE)
 33DeFabio (TC#400.3CHASTP)
 33Donaldson (TC#810.3CRITES)
 33Griffin (TC#400.3LITPRO)
 33Heath (TC#400.6GUILAA)
 33Hibbard (TC#470.3ASSWRP)
 33Horn & Olson (TC#000.3LANCOP)
 33Johnson (TC#500.6PORMAL)
 33Kolanowski (TC#400.6USEPOA)
 33Little & Allan (TC#150.6STULET)
 33McClure, Walters et al. (TC#150.6NONUSS)
 33McRobbie (TC#150.6USIPOA)
 33Nat'l Education Assn. (TC#150.6STUPOR)
 33Paulson & Paulson (TC#150.6MAKOFA)
 33Paulson & Paulson (TC#150.6PORSTO)
 33Paulson (TC#150.6PORLOF)
 33Paulson, Paulson et al. (TC#150.6WHAMAA)
 33Salinger (TC#400.6CCABAP)
 33Scardamalia & Bereiter (TC#050.5CHIASC)
 33Shiver (TC#000.6INTPOD)
 33Simmons & Resnick (TC#150.6ASSCAS)
 33Spandel & Culham (TC#150.6INCLSG02, 102, & v02)
 33Stenmark (TC#500.3MATASM)
 33Unanue (TC#400.6CARPOA)
 33Valencia (TC#400.3ASSREA)
 33Vavrus (TC#150.6PUTPOT)
 33Wiggins (TC#150.6RATNUM)
 33Wilson (TC#050.5ROLOFM)
 33Yancey (TC#470.3PORWRC)
- 34Adams (TC#700.6PORASS)
 34Ames & Sumner (TC#150.6SUPATR)
 34Arter, Culham et al. (TC#150.6CLAASI13 & v13)
 34Austin (TC#150.6CHAVIS)

- 34Barton & Collins (TC#130.4PORTEE)
 34Beacon Heights (TC#400.3PORTPR)
 34Belanoff & Dickson (TC#000.6PORPRP)
 34Bellingham Pub. Schools (TC#000.3BELPUS)
 34Bishop (TC#470.6REVTEW)
 34Bishop (TC#440.3ONCURA)
 34Booth (TC#150.6SPLPOK)
 34Brandt (TC#470.6WHEWRP)
 34Braunger (TC#400.6PORLAC)
 34Burnham (TC#470.3POREVR)
 34Calif. Dept. of Ed. (TC#400.3CALLER2)
 34Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 34Calkins (TC#400.3JUNINLA)
 34Campbell (TC#000.3LASDIP)
 34Carr (TC#810.6PORFOL)
 34Clemmons, Laase et al. (TC#400.3PORCLT)
 34Coleman (TC#050.6PORASK)
 34Collins & Dana (TC#000.3USIPOM)
 34Collins (TC#600.6PORSCE)
 34Comm. Exp. for Career Ed. (TC#220.3RECOFS)
 34Crowley (TC#500.3STUMAP)
 34Daws (TC#000.3SCHWIP)
 34Ed. Dev. Center, Inc. (TC#800.3ASSSTL)
 34Elbow & Belanoff (TC#470.3STAUNO)
 34Elliott & Harriman (TC#470.3FEASTO)
 34Ellsworth (TC#150.6ASSPRL)
 34Farr (TC#400.3INTASS2)
 34Feeney (TC#000.3ROPEWI)
 34Ferguson (TC#500.3ZERMAA)
 34Fingeret (TC#440.3ITBELM)
 34Flood (TC#400.3REPPE)
 34Gahagan, Smith et al. (TC#400.3PROPRI)
 34Gearhart (TC#470.3WRIPOE)
 34Glazer (TC#400.6PORBEY)
 34Gomez (TC#150.6WHAAAP)
 34Grady (TC#150.6GRAPRO2)
 34Graves (TC#150.6PORPOR)
 34Griffin (TC#400.3LITPRO)
 34Grosvenor (TC#400.3TAKASI)
 34Gursky (TC#110.3MAIPOB)
 34Hackett (TC#500.6FUNTES)
 34Hancock (TC#150.6BUTWHA)
 34Hansen (TC#400.3LITPOH)
 34Hansen (TC#440.6LITPOE)
 34Harbrun & Rivard (TC#440.3LEAACP)
 34Heath (TC#400.6GUILAA)
 34Herbert (TC#000.3PORINR)
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 34Herter (TC#470.6WRTPOA)
 34Hessler & Kuntz (TC#223.3STUPOE)
 34Hetterscheidt, Pott et al. (TC#400.3USICOR)
 34Hibbard (TC#470.3ASSWRP)
 34Hill, Kamber et al. (TC#150.6WAYMAS)
 34Hulsart (TC#150.6STUPOP)
 34Ingalls & Jones (TC#470.3THELOT)
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 34Jasmine (TC#400.6PORASL)
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 34Kimeldorf (TC#000.6CREPOS)
 34Koretz, Stecher et al. (TC#000.6VERPOF)
 34Krest (TC#470.6ADATHP)
 34Lambdin & Walker (TC#500.3PLAPOA)
 34Lee (TC#070.3SUGFRE)
 34LeMahieu (TC#000.6USISTP)
 34LeMahieu (TC#470.3WRIPOC)
 34Lewis (TC#150.6PORTRF)
 34Lewis (TC#470.3PILPRF)
 34Little & Allan (TC#150.6STULET)
 34Maier (TC#150.6STULEP)
 34Malarz, D'Arcangelo et al. (TC#150.6REDASO & v)
 34Marienberg (TC#470.3PORCON)
 34Mathews (TC#440.6FROCOM)
 34McClure, Walters et al. (TC#150.6NONUSS)
 34McRobbie (TC#150.6USIPOA)
 34Mengel (TC#150.6ELEPOS)
 34Michigan Dept. of Ed. (TC#000.3EMPSKA)
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 34Monier (TC#150.6SENPRO)
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 34Murdick (TC#150.6PORANP)
 34Nat'l Ctr. for Res. (TC#470.3PORASHv)
 34Nat'l Education Assn. (TC#150.6STUPOR)
 34Pandy (TC#500.3SAMMAA)
 34Paris (TC#400.3PORASR)
 34Parr (TC#000.6LEWANC)
 34Paulson & Paulson (TC#340.6AFTREP)
 34Paulson & Paulson (TC#500.3PORPEI)
 34Paulson (TC#070.6FEAASY)
 34Paulson (TC#150.6PORLOF)
 34Paulson (TC#500.6PORGUJ)
 34Paulson, Paulson et al. (TC#150.6WHAMAA)
 34Pokay & Tayeh (TC#500.3EFFPOU)
 34Polakowski (TC#440.3LITPOE)
 34Price (TC#810.6DEVAPO)
 34Pritchard (TC#500.3STUPOT)
 34Rabinowitz (TC#223.3CARTEA2)
 34Rief (TC#470.3FINTHV)
 34Rousculp & Maring (TC#000.3PORFOC)
 34Sack (TC#150.6PORAST)
 34Salinger (TC#400.6CCABAP)
 34Scherban-Sierra (TC#130.3PORTHB)
 34Schuman & Maier (TC#000.3SELRES)
 34Serrano (TC#000.3LOOPOA)
 34Shiver (TC#000.6INTPOD)
 34Short & Kauffman (TC#400.3HEASTV)
 34Simmons & Resnick (TC#150.6ASSCAS)

34Simmons (TC#470.3PORLAA)
 34Spandel & Culahm (TC#150.6INCLSG02, t02, & v02)
 34Stahle & Mitchell (TC#130.3PORASC)
 34Stenmark (TC#500.3MATASM)
 34Swicegood (TC#150.6PORBAA)
 34Thompson (TC#500.3PORMOD)
 34Thomson (TC#150.6THESCO)
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 34Unanue (TC#400.6CARPOA)
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 34Valeri-Gold, Olson et al. (TC#440.6PORCOA)
 34Vavrus (TC#150.6PUTOT)
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 34Vermont Dept. of Ed. (TC#500.3REPOFV)
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 34Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 34Vermont Math. Port. Proj. (TC#500.3RESBOO)
 34Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 34Viechnicki, Rohrer et al. (TC#070.6IMPOPA)
 34Wagner, Brock et al. (TC#400.3DEVLP)
 34Winbury & Evans (TC#470.3POWPOP)
 34Winner & Camp (TC#470.6ARTPRI)
 34Winner & Simmons (TC#810.6ARTPRV)
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 34Winner, Davidson et al. (TC#810.6ARTPRM)
 34Yancey (TC#470.3PORWRC)
 34Yumori & Tibbetts (TC#400.3PRAPET)

35Arter & Paulson (TC#150.6COMPOW)
 35Frazier (TC#470.3COMPOI)
 35Frazier (TC#470.3PORASF)
 35Gentile (TC#470.3EXPNEM)
 35Horn & Olson (TC#000.3LANCOP)
 35Meyer, Schuman et al. (TC#105.6NWEWHP)
 35Valencia & Calfee (TC#400.3DEVUSL)

36Bellingham Pub. Schools (TC#000.3BELPUS)
 36Bishop (TC#470.6REVTEW)
 36Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 36Calkins (TC#400.3JUNINL4)
 36Clemmons, Laase et al. (TC#400.3PORCLT)
 36Ed. Dev. Center, Inc. (TC#800.3ASSSTL)
 36Feeney (TC#000.3ROPEWI)
 36Frazier (TC#470.3COMPOI)
 36Gearhart (TC#470.3WRIPOE)
 36Gentile (TC#470.3EXPNEM)
 36Glazer (TC#400.6PORBEY)
 36Griffin (TC#400.3LITPRO)
 36Heath (TC#400.6GUILAA)
 36Hibbard (TC#470.3ASSWRP)
 36Horn & Olson (TC#000.3LANCOP)
 36Hunt (TC#470.3STUMET)
 36Kekic (TC#800.3ASSTEC)

36Knight (TC#440.3CODJOE)
 36LeMahieu (TC#470.3WRIPOC)
 36Michigan Dept. of Ed. (TC#000.3EMPSKA)
 36Monier (TC#150.6SENPRO)
 36Moss (TC#470.6PORACI)
 36Pandy (TC#500.3SAMMAA)
 36Rabinowitz (TC#223.3CARTEA2)
 36Serrano (TC#000.3LOOPOA)
 36Stenmark (TC#500.3MATASM)
 36Thompson (TC#500.3PORMOD)
 36Tierney, Carter et al. (TC#400.6PORASC)
 36Unanue (TC#400.6CARPOA)
 36Vermont Dept. of Ed. (TC#470.3REPOFV)
 36Vermont Dept. of Ed. (TC#500.3REPOFV)
 36Vermont Math. Port. Proj. (TC#500.3GRAEIB)
 36Vermont Math. Port. Proj. (TC#500.3GRAFOB)
 36Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 36Wiggins (TC#150.6RATNUM)
 36Winbury & Evans (TC#470.3POWPOP)
 36Winner & Simmons (TC#810.6ARTPRV)
 36Winner (TC#000.6ARTPRI)
 36Winner, Davidson et al. (TC#810.6ARTPRM)

37Adams (TC#700.6PORASS)
 37Arter, Culham et al. (TC#150.6CLAASI2 & v13)
 37Bishop (TC#470.6REVTEW)
 37Calif. Dept. of Ed. (TC#600.3GOLSTE2)
 37Collins & Dana (TC#000.3USIPOM)
 37Crowley (TC#500.3STUMAP)
 37DeFabio (TC#400.3CHASTP)
 37Elliott & Harriman (TC#470.3FEASTO)
 37Gahagan, Smith et al. (TC#400.3PROPRI)
 37Gearhart (TC#470.3WRIPOE)
 37Gentile (TC#470.3EXPNEM)
 37Kimeldorf (TC#000.6CREPOS)
 37Lambdin & Walker (TC#500.3PLAPOA)
 37LeMahieu (TC#000.6USISTP)
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 37Moss (TC#470.6PORACI)
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 37Paulson (TC#150.6PORLOF)
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 37Rousculp & Maring (TC#000.3PORFOC)
 37Salinger (TC#400.6CCABAP)
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 37Simmons (TC#470.3PORLAA)
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 37Tierney, Carter et al. (TC#400.6PORASC)
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 37Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 37Viechnicki, Rohrer et al. (TC#070.6IMPOPA)
 37Wagner, Brock et al. (TC#400.3DEVLP)
 37Winbury & Evans (TC#470.3POWPOP)
 37Winner & Camp (TC#470.6ARTPRI)

37Winner & Simmons (TC#810.6ARTPRV)
 37Winner (TC#000.6ARTPRI)
 37Winner, Davidson et al. (TC#810.6ARTPRM)
 37Yumori & Tibbetts (TC#400.3PRAPET)

 38Ames & Sumner (TC#150.6SUPATR)
 38Arter (TC#000.6NWESTS)
 38Arter, Culham et al. (TC#150.6CLAAS13 & v13)
 38Barton & Collins (TC#130.4PORTEE)
 38Donaldson (TC#810.3CRITES)
 38Horn & Olson (TC#000.3LANCOP)
 38Lewis (TC#470.3PILPRF)
 38Pritchard (TC#500.3STUPOT)
 38Schuman & Maier (TC#000.3SELRES)
 38Tierney, Carter et al. (TC#400.6PORASC)
 38Valencia & Calfee (TC#400.3DEVUSL)
 38Vermont Math. Port. Proj. (TC#500.3TEAGUI)

 39Arter, Culham et al. (TC#150.6CLAAS13 & v13)
 39Austin (TC#150.6CHAVIS)
 39Beacon Heights (TC#400.3PORTPR)
 39Belanoff & Dickson (TC#000.6PORPRP)
 39Calif. Dept. of Ed. (TC#400.3CALLER2)
 39Clemmons, Laase et al. (TC#400.3PORCLT)
 39Crowley (TC#500.3STUMAP)
 39Elliott & Harriman (TC#470.3FEASTO)
 39Frazier (TC#470.3COMPOI)
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 39Graves (TC#150.6PORPOR)
 39Hackett (TC#500.6FUNTES)
 39Hansen (TC#400.3LITPOH)
 39Horn & Olson (TC#000.3LANCOP)
 39Knight (TC#440.3CODJOE)
 39Lambdin & Walker (TC#500.3PLAPOA)
 39Levi (TC#400.6ASSEDV)
 39Lewis (TC#470.3PILPRF)
 39Malarz, D'Arcangelo et al. (TC#150.6REDASOI & v)
 39Marienberg (TC#470.3PORCON)
 39Michigan Dept. of Ed. (TC#000.3EMPSKA)
 39Moss (TC#470.6PORACI)
 39Nat'l Ctr. for Res. (TC#470.2PORASHv)
 39Oboyski-Butler et al. (TC#400.6SHAJOE)
 39Paulson & Paulson (TC#500.6SETSTS)
 39Paulson (TC#070.6FEAASY)
 39Paulson (TC#500.6PORGUJ)
 39Paulson (TC#500.6STUSER)
 39Rief (TC#470.3FINTHV)
 39Rousculp & Maring (TC#000.3PORFOC)
 39Serrano (TC#000.3LOPOA)
 39Short & Kauffman (TC#400.3HEASTV)
 39Stenmark (TC#500.3MATASM)
 39Tierney, Carter et al. (TC#400.6PORASC)
 39Vermont Dept. of Ed. (TC#470.3REPOFV)

39Vermont Dept. of Ed. (TC#500.3REPOFV)
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 39Winner, Davidson et al. (TC#810.6ARTPRM)

 40Ames & Sumner (TC#150.6SUPATR)
 40Ames (TC#440.6SELRES)
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 40Clemmons, Laase et al. (TC#400.3PORCLT)
 40Collins & Dana (TC#000.3USIPOM)
 40Collins (TC#600.6PORSCE)
 40Elbow & Belanoff (TC#470.3STAUNO)
 40Elliott & Harriman (TC#470.3FEASTO)
 40Ferguson (TC#500.3ZERMAA)
 40Fingeret (TC#440.3ITBELM)
 40Flood (TC#400.3PREP)
 40Frazier (TC#470.3COMPOI)
 40Frazier (TC#470.3PORASF)
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 40Herbert (TC#000.3PORINR)
 40Hern (TC#150.6PORASU)
 40Herter (TC#470.6WRTPOA)
 40Hettterscheidt, Pott et al. (TC#400.3USICOR)
 40Hibbard (TC#470.3ASSWRP)
 40Hill, Kamber et al. (TC#150.6WAYMAS)
 40Howard (TC#470.6MAKTHW)
 40Hunt (TC#470.3STUMET)
 40Ingalls & Jones (TC#470.3THELOT)
 40Int'l Reading Assn. (TC#440.6PORILP)
 40Kilmer (TC#000.6PORPRA)
 40Kimeldorf (TC#000.6CREPOS)
 40Knight (TC#440.3CODJOE)
 40Krest (TC#470.6ADATHP)
 40Lambdin & Walker (TC#500.3PLAPOA)
 40LeMahieu (TC#000.6USISTP)
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 40Levi (TC#400.6ASSEDV)
 40Lewis (TC#470.3PILPRF)
 40Little & Allan (TC#150.6STULET)
 40Maier (TC#150.6STULEP)
 40Malarz, D'Arcangelo et al. (TC#150.6REDASOI & v)
 40Marienberg (TC#470.3PORCON)
 40Mathews (TC#440.6FROCOM)
 40Oboyski-Butler et al. (TC#400.6SHAJOE)
 40Paulson & Paulson (TC#500.6SETSTS)

40Paulson (TC#070.6FEAASY)
 40Paulson (TC#150.6PORLOF)
 40Paulson (TC#500.6PORGUI)
 40Paulson (TC#500.6STUSER)
 40Paulson, Paulson et al. (TC#150.6WHAMAA)
 40Preece (TC#000.6SELMAM)
 40Price (TC#810.6DEVAPO)
 40Rief (TC#470.3FINTHV)
 40Rousculp & Maring (TC#000.3PORFOC)
 40Salinger (TC#400.6CCABAP)
 40Scardamalia & Bereiter (TC#050.5CHIASC)
 40Schwartz (TC#470.6LETTA)
 40Thompson (TC#470.3SELASA)
 40Thompson (TC#500.3PORMOD)
 40Tierney, Carter et al. (TC#400.6PORASC)
 40Villano (TC#470.6FAIMEL)
 40Wagner, Brock et al. (TC#400.3DEVLP)
 40Wilson & Wing Ham (TC#050.6THETHE)
 40Wilson (TC#050.5ROLOFM)
 40Winner & Camp (TC#470.6ARTPRI)
 40Winner & Simmons (TC#810.6ARTPRV)
 40Winner (TC#000.6ARTPRI)
 40Winner, Davidson et al. (TC#810.6ARTPRM)
 40Yancey (TC#470.3PORWRC)

 41Adams (TC#700.6PORASS)
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 41Burnham (TC#470.3POREVR)
 41Carr (TC#810.6PORFOL)
 41Clemmons, Laase et al. (TC#400.3PORCLT)
 41Collins & Dana (TC#000.3USIPOM)
 41Crowley (TC#500.3STUMAP)
 41Daws (TC#000.3SCHWIP)
 41Erickson (TC#470.6DEVSTCH)
 41Ferguson (TC#500.3ZERMAA)
 41Frazier (TC#470.3PORASF)
 41Gahagan, Smith et al. (TC#400.3PROPRI)
 41Graves (TC#150.6PORPOR)
 41Grosvenor (TC#400.3TAKASI)
 41Hansen (TC#400.3LITPOH)
 41Hansen (TC#440.6LITPOE)
 41Harbrun & Rivard (TC#440.3LEAACP)
 41Herbert (TC#000.3PORINR)
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 41Herter (TC#470.6WRTPOA)
 41Hibbard (TC#470.3ASSWRP)

41Horn & Olson (TC#000.3LANCOP)
 41Howard (TC#470.6MAKTHW)
 41Jasmine (TC#400.6PORASL)
 41Kekic (TC#800.3ASSTEC)
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 41Lambdin & Walker (TC#500.3PLAPOA)
 41Lee (TC#070.3SUGFRE)
 41LeMahieu (TC#470.3WRIPOC)
 41Lewis (TC#150.6PORTRF)
 41Maier (TC#150.6STULEP)
 41Malarz, D'Arcangelo et al. (TC#150.6REDASO & v)
 41McClure, Walters et al. (TC#150.6NONUSS)
 41Nat'l Education Assn. (TC#150.6STUPOR)
 41Obcyski-Butler et al. (TC#400.6SHAJOE)
 41Paris (TC#400.3PORASR)
 41Paulson & Paulson (TC#500.3PORPEL)
 41Paulson (TC#500.6PORGUI)
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 41Rousculp & Maring (TC#000.3PORFOC)
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 41Shiver (TC#000.6INTPOD)
 41Short & Kauffman (TC#400.3HEASTV)
 41Stahle & Mitchell (TC#130.3PORASC)
 41Stenmark (TC#500.3MATASM)
 41Tierney, Carter et al. (TC#400.6PORASC)
 41Unanue (TC#400.6CARPOA)
 41Valeri-Gold, Olson et al. (TC#440.6PORCOA)
 41Vermont Math. Port. Proj. (TC#500.3TEAGUI)
 41Villano (TC#470.6FAIMEL)
 41Winner & Camp (TC#470.6ARTPRI)
 41Winner & Simmons (TC#810.6ARTPRV)
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 41Winner, Davidson et al. (TC#810.6ARTPRM)
 41Yumori & Tibbetts (TC#400.3PRAPET)

 42Ames & Sumner (TC#150.6SUPATR)
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 42Austin (TC#150.6CHAVIS)
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 42Calkins (TC#400.3JUNINLA)
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 42Collins & Dana (TC#000.3USIPOM)
 42Comm. Exp. for Career Ed. (TC#220.3RECOFS)
 42Crowley (TC#500.3STUMAP)
 42Elbow & Belanoff (TC#470.3STAUNO)
 42Elliott & Harriman (TC#470.3FEASTO)
 42Flood (TC#400.3REPREP)

- 42Frazier (TC#470.3COMPOI)
 42Frazier (TC#470.3PORASF)
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 42Graves (TC#150.6PORPOR)
 42Hancock (TC#150.6BUTWHA)
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 42Malarz, D'Arcangelo et al. (TC#150.6REDASO & v)
 42Marienberg (TC#470.3PORCON)
 42Monier (TC#150.6SENPRO)
 42Murdick (TC#150.6PORANP)
 42Parr (TC#000.6LEWANC)
 42Paulson (TC#150.6PORLOF)
 42Paulson, Paulson et al. (TC#150.6WHAMAA)
 42Rousculp & Maring (TC#000.3PORFOC)
 42Sack (TC#150.6PORAST)
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 42Thomson (TC#150.6THESCO)
 42Tierney, Carter et al. (TC#400.6PORASC)
 42Valencia (TC#400.3ASSREA)
 42Vavrus (TC#150.6PUTPOT)
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 42Winner, Davidson et al. (TC#810.6ARTPRM)
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- 43Barton & Collins (TC#130.4PORTEE)
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 43Hessler & Kuntz (TC#223.3STUPOE)
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 43Lee (TC#070.3SUGFRE)
 43Little & Allan (TC#150.6STULET)
- 43Malarz, D'Arcangelo et al. (TC#150.6REDASO & v)
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- 44Austin (TC#150.6CHAVIS)
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45Feeney (TC#000.3ROPEWI)
 45Harbron & Rivard (TC#440.3LEAACP)
 45Mathews (TC#440.6FROCOM)
 45Paris (TC#400.3PORASR)
 45Stahle & Mitchell (TC#130.3PORASC)
 45Valeri-Gold, Olson et al. (TC#440.6PORCOA)
 45Yumori & Tibbetts (TC#400.3PRAPET)

45aBarrett (TC#150.6TECSUA)
 45aGrady (TC#150.6GRAPRO2)
 45aHettterscheidt, Pott et al. (TC#400.3USICOR)
 45aMathews (TC#440.6FROCOM)
 45aMcClure, Walters et al. (TC#150.6NONUSS)
 45aMengel (TC#150.6ELEPOS)
 45aNat'l Computer Systems (TC#150.6NCSABA)
 45aProject PULSE (TC#600.6PULSE)
 45aShiver (TC#000.6INTPOD)

46Adams (TC#700.6PORASS)
 46Athanasas (TC#130.6TEAREE)
 46Barton & Collins (TC#130.4PORTEE)
 46Bird (TC#130.4NOTONA)
 46Bird (TC#130.6SCHTPO)
 46Collins (TC#600.6PORSCE)
 46Cowan (TC#130.4SOURCES)
 46Denus & St. Hilaire (TC#130.4PORREV)
 46Doolittle (TC#130.6TEAPOA)
 46Graves (TC#150.6PORPOR)
 46Gursky (TC#110.3MAIPOB)
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 46Wagner, Brock et al. (TC#400.3DEVLIP)
 46Wolf (TC#130.4TEAPOS)

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 48Valeri-Gold, Olson et al. (TC#440.6PORCOA)